

MINUTES OF THE SENATE ASSESSMENT AND TAXATION COMMITTEE

The meeting was called to order by Vice-Chairman Les Donovan at 10:30 A.M. on March 8, 2005 in Room 519-S of the Capitol.

All members were present except:

Barbara Allen- excused

Committee staff present:

Martha Dorsey, Kansas Legislative Research

Conferees appearing before the committee:

Dr. Lee Allison, Director/ Science & Energy Office/ Governor

Charles Benjamin, Sierra Club

Ron Gaches, Kansas Wind

Brad Harrelson, Kansas Farm Bureau

Jennifer States, J. W. Prairie Wind Power, Lawrence

Phil Duran, Krystal Energy, Lenexa

Alan Pollom, State Director, Nature Conservancy

Dr. Christopher Pflaum, Spectrum Economics, Inc., Overland Park, Kansas

John Hund, Tallgrass Ranchers, Paxico

Virgil Huseman, Ranchers in Smoky River Valley, Ellsworth County

Suzan Barnes, Flint Hills Tourism, Cottonwood Falls, KS

Phil Epp, Tall Grass Prairie Artists

Ron Klataske, Executive Director, Audubon of Kansas

Dan Ward, Kansas Wildlife Federation

Jackie Sundgren, Protect the Flint Hills

Margy Stewart, Geary County

Jane Link, Geary County

Written testimony

Rose Bacon, Council Grove

Peter Cohen, Alta Vista

Christine Crenshaw, Wabaunsee County

Glenn Schleede, Round Hill, VA

Allie Devine, Kansas Livestock Association

Others attending:

See attached list.

Hearing on:

SB 280 - Income tax credits for production and sale of electricity generated by renewable energy and community wind energy facilities

Vice-Chairman Donovan standing in for Chairperson Allen opened the hearing on **SB 280**.

Chairman Donovan recognized Dr. Lee Allison, director of the Office of Science and Energy Policy for Governor Sebelius. Dr. Allison presented testimony in support of **SB 280**, stating if Kansas can develop more wind energy developments, the state can use them to attract manufacturing and add jobs for Kansas residents in this rapidly growing industry. He added that renewable energy is still an emerging technology, and incentives are necessary (Attachment 1).

Charles Benjamin, appearing on behalf of the Kansas Chapter of Sierra Club, gave testimony as a proponent on **SB 280**. Dr. Benjamin stated according to the 2005 Kansas Energy Report: "*Kansas' wind-energy potential ranks somewhere between first and third in the nation and is at least 10 times greater than the state's current electrical demand. Midwestern states, including the Great Plains, have enough potential in their windiest sites alone to meet the entire nation's electricity needs. Should Kansas or any of the Plains*

CONTINUATION SHEET

MINUTES OF THE Senate Assessment and Taxation Committee at 10:30 A.M. on March 8, 2005 in Room 519-S of the Capitol.

states choose, electricity from wind power could become another exportable resource, much like grain, beef, and airplanes". (Attachment 2).

Testimony in support of **SB 280** was presented by Ron Gaches. Mr. Gaches spoke on behalf of the Kansas Wind Coalition, stating Kansas has the potential to be an important player in the emerging wind industry. According to the American Wind Energy Association, Kansas ranks number three for wind energy potential (Attachment 3).

Brad Harrelson provided testimony supporting **SB 280**. Mr. Harrelson is State Policy Director for the Kansas Farm Bureau Governmental Relations. Mr. Harrelson stated Kansas ranks high in wind velocity - third in the nation in total wind potential behind North Dakota and Texas. Those three states have the potential to supply enough energy to meet the needs of all of the lower 48 states (Attachment 4).

Jennifer States, Managing Director for J. W. Prairie Wind Power LLC, appeared before the Committee as a proponent on **SB 280**. Ms. States discussed the many benefits of wind energy (Attachment 5).

Phil Duran, Krystal Energy Corporation, spoke to the Committee as a proponent on **SB 280**. Mr Duran commented in the last few years, after decades of having been a net exporter of energy, the state of Kansas has become a net importer of energy as the sources for fossil fuels have matured and declined. In the absence of the passage **SB 280**, Kansas will continue to fall further behind other states as they develop their renewable energy facilities, and will continue to become an even larger importer of energy (Attachment 6).

There being no others to testify as a proponent on **SB 280**, Chairman Donovan asked for opponents to the bill.

Alan Pollom, State Director, The Nature Conservancy, testified in opposition of **SB 280**. Mr. Pollom stated the conservation community feels strongly that wind power generating facilities should be sited in a way that does not interfere with important wildlife movement corridors and staging areas, and should be located on lands that are already altered or cultivated rather than intact native habitats (Attachment 7).

Testimony in opposition of **SB 280** was presented by Dr. Christopher Pflaum, Overland Park, Kansas. Dr. Pflaum stated he believes this proposed legislation to be without merit (Attachment 8).

John Hund presented testimony, in opposition to **SB 280**, on behalf of the Tallgrass Ranchers. Mr. Hund's testimony included copies of the *Siting Guidelines for Windpower Projects in Kansas*, *Wind Power and Wildlife Issues in Kansas: the Position of the Kansas Department of Wildlife and Parks*, *the Assessment of the Economic and Tourism Impacts, Kansas Wind Energy, Wind Projects*, charts and etc (Attachment 9).

Virgil Huseman, Ellsworth County, presented testimony in opposition to **SB 280** (Attachment 10).

Testimony in opposition was presented by Suzan Barnes, Proprietor, Grand Central Hotel, Cottonwood Falls, Kansas. Ms. Barnes stated the state Travel and Tourism division have partnered with an agri-marketing company to help the state develop a sustainable agritourism plan. She stated Agri-tourism efforts are grounded in a community's pride in its history and traditions. Barnes said preserving the integrity of the landscape, local stories, and understanding of the area will define who Kansas is (Attachment 11).

Phill Epp, Tallgrass Prairie Artists, presented the Committee "*Homage to the Flint Hills*" *A Gathering of Art Inspired by the Tallgrass Prairie of Kansas*. Mr. Epp asked the Committee to draw a wind turbine on his painting to illustrate how the wind turbine would look against the landscape (Attachment 12).

Ron Klataske, Executive Director, Audubon of Kansas, presented testimony in opposition on **SB 280**. Mr. Klataske appeared on behalf of members of Audubon in Kansas and others that have worked very closely with it in recent years to protect the Flint Hills from destructive projects fueled with tax subsidizes and direct tax credits (Attachment 13).

Testimony in opposition to **SB 280**, was presented by Dan Ward, Kansas Wildlife Federation. Mr. Ward listed in his testimony five reasons for the state to not apply further governmental incentives for wind energy

CONTINUATION SHEET

MINUTES OF THE Senate Assessment and Taxation Committee at 10:30 A.M. on March 8, 2005 in Room 519-S of the Capitol.

systems. He argued wind energy already enjoys both state and federal incentives (Attachment 14).

Jackie Sundgren, Rosalia, Kansas, presented testimony opposing **SB 280**. Ms. Sundgren stated **SB 280** will open a floodgate to wind companies destroying a one-of-a-kind area and ignoring the work Kansas residents have done generation after generation to protect the tallgrass prairie (Attachment 15).

Testimony presented in opposition on **SB 280** was given by Margy Stewart, Geary County. Ms. Stewart and her husband started an educational non-profit organization called Prairie Heritage through which youth and adults are invited to hike and camp on the land to learn about the tall grass prairie and the many peoples who have lived on it. Ms. Stewart believes **SB 280**, as written is very flawed. It would allow, even encourage, the defacement of the Flint Hills - as it contains the most pristine and characteristic Flint Hills landscape (Attachment 16).

Jayne Link presented testimony opposing **SB 280**. Ms. Link stated that there are more appropriate places to site industrial wind development than the Flint Hills of Kansas. (Attachment 17).

There being no others to testify as an opponent to **SB 280**, Chairman Donovan closed the hearing.

Written testimony was submitted by the following:

Rose Bacon, Council Grove, Kansas (Attachment 18)

Pete Cohen, Wabaunsee County (Attachment 19)

Christine Crenshaw, Wabaunsee County (Attachment 20)

Glen Schleede, Round Hill, VA (Attachment 21).

Allie Devine, VP and General Counsel, Kansas Livestock Association (Attachment 22).

Chairman Donovan asked for a motion to approve the minutes of January 20, February 17, 21, and 22. Senator Apple made a motion to approve the minutes. Senator Bruce seconded the motion. The motion carried.

The meeting adjourned at 12:05 p.m.

Senate
HOUSE TAXATION COMMITTEE GUEST LIST

DATE: March 8, 2005

NAME	REPRESENTING
Mary Alice Parmley	<i>I am from Topeka our beautiful Superstition Flint Hills</i>
LARRY BEER	MIDWEST ENERGY
Dave Holtkamp	KEC
TOM DAY	KCC
Bill Gray	Pristine Power
TOM GRAY	PRISTINE POWER
Mike Beam	KS. LUSTK. ASSN.
Ed May	Helm Law Firm
George Petersen	It's Taxpayers Network
Paul Johnson	PACK
BRAD HARRISON	KFB
PHIL EPP	
Don Lambert	Topata
Joe HARKINS	GOV. OFFICE
Geoff Coventry	TRADEWIND ENERGY
PAUL GACHES	KS. WIND COALITION
Jennifer States	JW Prairie Windpower
Lee Allsore	Gov's office
Anna Wagner	Sierra Club Volunteer

~~HOUSE~~ ^{Senate} TAXATION COMMITTEE GUEST LIST

DATE: March 8, 2005

NAME	REPRESENTING
Laurie McKinnon	KPERS
Chris Klamm	NA
Margy Stewart	Bird Runner Wildlife Refuge
Jayne Link	NA - Kansas Resident
DAN WARD	Yes Wildlife Forum
Carol McDowell	Tallgrass Ranchers
Ron Klataske	Audubon of Kansas
SUZAN BARNES	PROTECT THE FLINT HILLS - ^{TOURISM}
Steve Sundgren	Protect the Flint Hills - Rancher
Jacque Sundgren	Protect the Flint Hills / Rancher
Steve Stott	KIDOR
Stephen Donley	Smoky Hills Ellsworth
Virgil Husman	Smoky Hills - Ellsworth
Joe Mark	KLBPU
Robin Tennison	Tallgrass Ranchers
Mark Schreiber	Westar Energy
Bruce GRAHAM	KEPCo
Steve Johnson	Kansas Gas Service
Lee Rucker	Zandale Kansas

Senate

~~HOUSE~~ TAXATION COMMITTEE GUEST LIST

DATE: March 8, 05

NAME	REPRESENTING
Phil Duran	Krystal Energy Corp
Charles Anjem	Sierra Club - US

Testimony in support of SB280
Presented to the
Senate Assessment and Taxation Committee
By Lee Allison, PhD
Governor's Office of Science and Energy Policy
March 8, 2005

Thank you, Madame Chair for holding this hearing on Senate Bill 280 and for allowing me to speak in support of this initiative. My name is Lee Allison, and I am director of the Office of Science and Energy Policy for Governor Sebelius.

SB280 promotes economic development of a major Kansas resource, clean renewable energy, for the production of electricity. SB280 will help bring economic opportunities to rural Kansas, especially in our central and western areas. As the major source of renewable energy, wind energy can reduce the cost of electricity to many Kansas consumers. And of course, wind energy does not produce greenhouse gases such as carbon dioxide.

Kansas is among the top three states in the country in wind energy potential, but we are only number 12 in installed capacity (see Figure 1). This bill will help bring energy projects worth hundreds of millions of dollars to Kansas. It will help diversify the fuel mix of our electric generation capacity and encourage construction of non-polluting energy sources.

At the same time, this bill does not apply to large portions of the Flint Hills, as it recognizes our core values of preserving the tallgrass prairie and respecting the region's ranching heritage.

If Kansas can develop more wind energy developments, the state can use them to attract manufacturing and to add jobs in this rapidly growing industry. But renewable energy is still an emerging technology, and incentives are necessary.

Markets can and do fail. High capital costs are often a barrier to entry, and it may make good economic sense to use financial incentives to encourage technology adoption.. The federal government has offered production tax credits (PTCs) for renewable energy to foster technological improvements that make these processes more competitive and commercial. The federal PTC expired at the end of 2003, and few new projects were built anywhere in the nation in 2004. Congress renewed the PTC late in 2004, but only until the end of 2005.

Unfortunately, the expiration of the federal PTC, followed by only a short extension period, has created a boom and bust cycle. Every wind project in the country is scrambling to get their turbines installed and operating at the same time. Prices for equipment and services are skyrocketing.

President Bush has called for extending the federal PTC by an additional two years. Although there is strong congressional support for an extension, the timing of Congress's action is unclear. Thus, there is great uncertainty in the wind energy industry about planning for projects after 2005.

Our bill, SB280, will provide more certainty for the Kansas wind energy development. The bill has three components. The first is what I'll call the "backstop" provision. It provides for a production tax credit on state income taxes of \$0.013 per kWh for electricity produced by renewable energy, including wind energy, to run for ten years after production begins, but only if and when the federal PTC expires. If the federal PTC of \$0.018 is renewed, then the state PTC as proposed in SB280 would not go into effect. The state backstop PTC would affect projects completed in 2006 or later. It would not apply to existing wind energy facilities or any that are put into production in 2005.

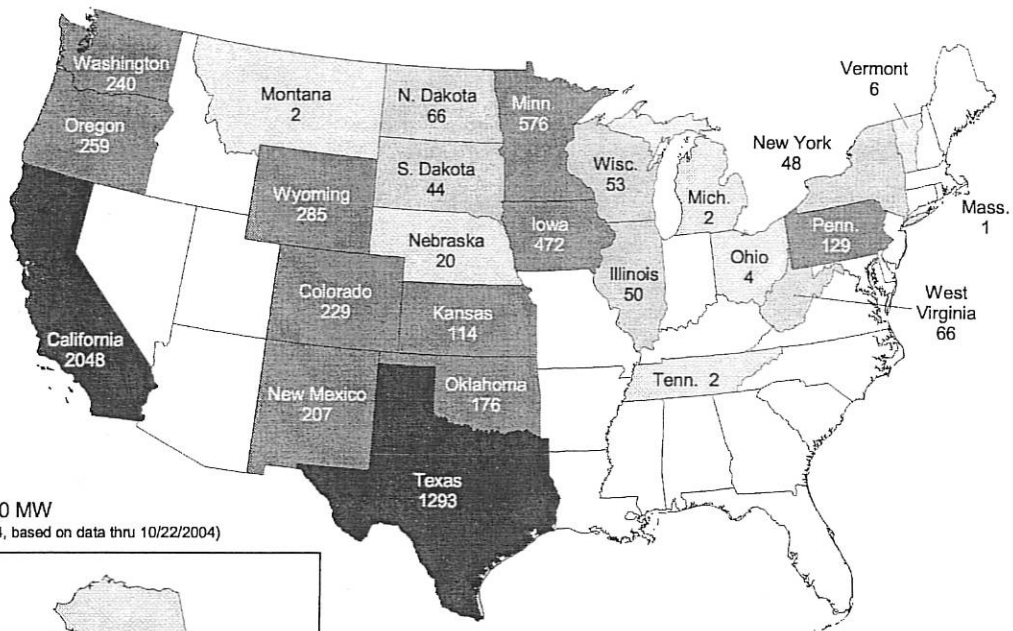
Our strategy here offers greater long-term certainty to electric utilities and wind developers as they plan for wind energy development in Kansas beyond 2005. Other states offer a state PTC that sits on top of the federal PTC. For example, New Mexico offers \$0.01 per kWh and Oklahoma currently provides \$0.0075 per kWh. Although these incentives provide additional financial support for projects, they do not address the big problem of long-term stability for the renewable energy industry. I know of no other state that offers a "backstop" approach like that proposed in SB280.

With this backstop provision, we anticipate that more renewable energy companies will pursue projects here, knowing with certainty what the financial rules are. This legislation can help Kansas become a leader in renewable energy, while minimizing the financial impacts on Kansas. The state PTC may well never have to be used.

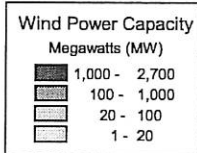
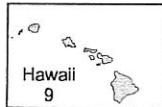
The second part of SB280 relates to what is known popularly as "community wind farms." These are smaller wind energy developments, from a single wind turbine to perhaps a dozen or so. These turbines may be as large as those in industrial wind facilities, but there are fewer of them. The Federal Energy Regulatory Commission allows expedited connection to the transmission grid for electric generators of less than 20 megawatts (MW) capacity.

We believe community wind farms are particularly well suited for Kansas. Such wind farms are being developed elsewhere in the country by farmer co-operatives or municipalities. Large industrial wind projects need significant capacity on transmission lines, which limits the locations in central and western Kansas that can support those loads. Community wind farms can take advantage of smaller capacities on transmission lines, which will allow them to be more widespread and to meet local needs. Because community wind does not produce the same economy of scale as large industrial wind projects, their costs can be higher. For that reason, we propose a separate PTC in SB280 aimed specifically at these smaller projects. We call for a \$0.005 per kWh tax credit on state income taxes for projects less than 30 MW, which are put into production this year or later.

United States - Wind Power Capacity (MW)



Total: 6,400 MW
 (As of 9/30/2004, based on data thru 10/22/2004)

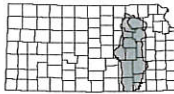
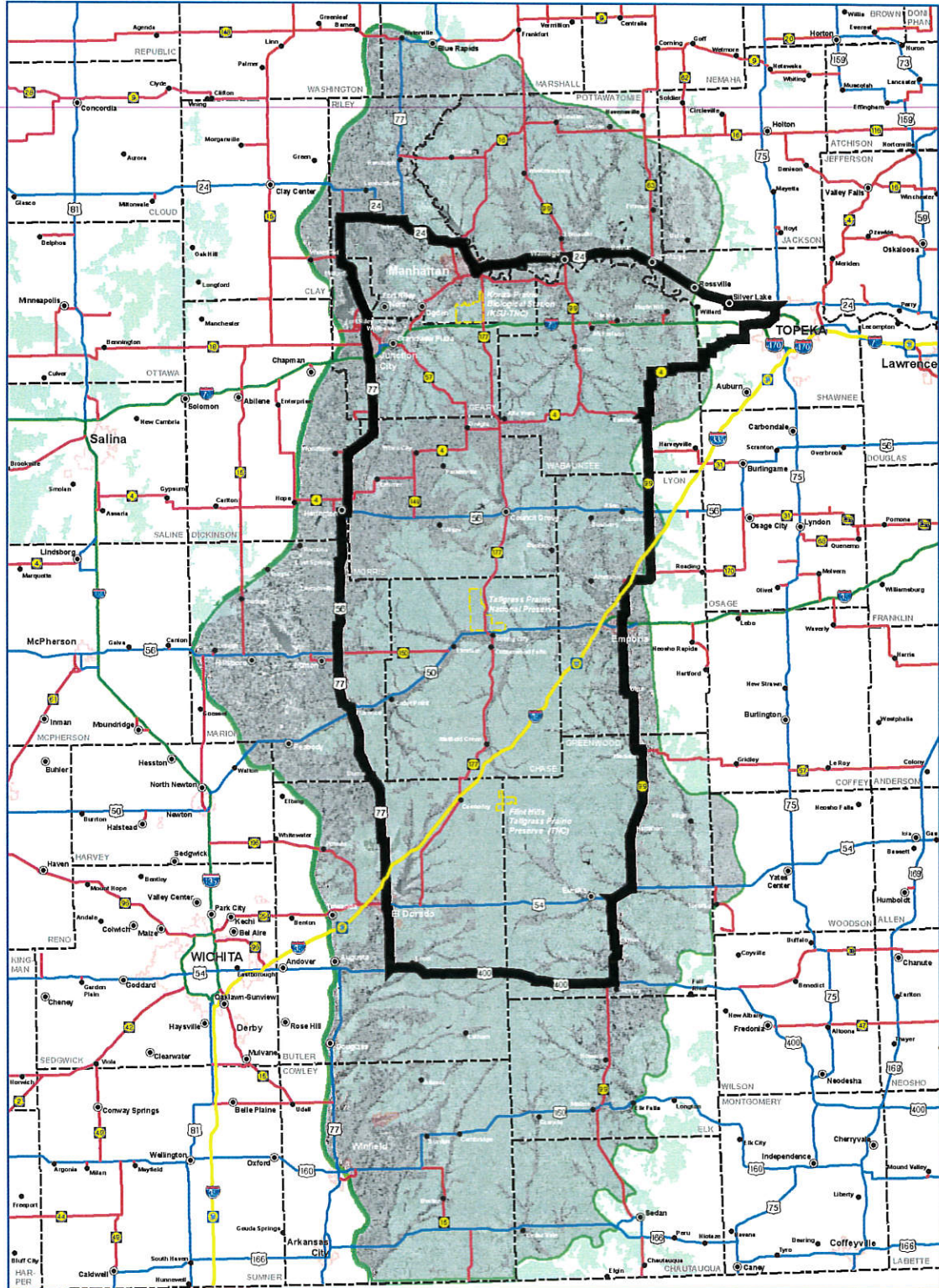


US Dept. of Energy
 National Renewable Energy Laboratory



25-OCT-2004 1.1.15

Heart of Flint Hills Area



Legend		
	Population over 10,000	
	Population 1-10,000	
	Population under 1,000	
	Heart of Flint Hills Area	
	Kansas Turnpike	
	Interstate Highway	
	U.S. Numbered Route	
	State Numbered Route	
	County Boundary	
	Preserve Boundary	
	Flint Hills Ecoregion*	
	90% Private Landscapes	

0 10 20 Miles
 0 10 20 Kilometers
 Universal Transverse Mercator (UTM) Projection, Zone 16
 North American Datum of 1983

This map is a product of digital orthographic satellite imagery (DOZI) collected from 2002-03 and processed by Google Earth. Images are overlaid on the georeferenced base map of the State of Kansas (1:400,000) and the digital elevation model (DEM) of the State of Kansas (1:400,000). The map uses a projection of North American Datum of 1983 (NAD83) and uses a datum of North American Datum of 1983 (NAD83). The map uses a datum of North American Datum of 1983 (NAD83) and uses a datum of North American Datum of 1983 (NAD83). The map uses a datum of North American Datum of 1983 (NAD83) and uses a datum of North American Datum of 1983 (NAD83).



Map produced by the Data Access and Support Center (DASC), Kansas Department of Geology and Mineral Resources (KDGMR).
 *Ecoregion boundary from "Ecoregions of the United States" (1989) by Robert M. Whittaker, John M. Meade, and Robert M. Whittaker, U.S. Geological Survey, (Scale 1:250,000).
 Second edition, 1984. No guarantee of accuracy are given or implied.

Testimony in Favor of S. B. 280

An Act concerning income tax credits for renewable energy facilities and community
wind energy facilities

Before the Kansas Senate Committee on Assessment and Taxation
March 8, 2005

Charles M. Benjamin, Ph.D., J.D.

P.O. Box 1642, Lawrence, Kansas 66044-8642

(785) 841-5902; 841-5922 facsimile

chasbenjamin@sbcglobal.net

On behalf of the Kansas Chapter of Sierra Club

The Sierra Club Commitment to Wind Energy – Especially in Kansas

The Sierra Club is the largest grass roots environmental organization in the world with some 800,000 members – including over 4,000 in Kansas. The Sierra Club generally supports renewable energy and specifically supports the development of wind energy – see <http://www.sierraclub.org/globalwarming/cleanenergy/factsheet/wind.asp> - attached to this testimony in paper form.

The Kansas Chapter of Sierra Club has also adopted renewable energy and energy conservation as its priority conservation goals. The development of Kansas wind energy resources, especially in western Kansas, is central to the renewable energy conservation goals of the Kansas Chapter of Sierra Club – see <http://kansas.sierraclub.org/Planet/2005-0203/Planet-2005-0203-Wind1.pdf>, also attached to this testimony in paper form. The Kansas Chapter of Sierra Club has also produced a “Kansas Wind Power” fact sheet available on-line at <http://kansas.sierraclub.org/Planet/2005-0203/Planet-2005-0203-Wind2.pdf> - also attached to this testimony in paper form.

“Wind energy is now the fastest-growing form of electricity generation in the world. Global demand is expected to increase by more than 15% a year.” This according to “Taking on the Energy Crunch: How Corporate America is working to develop alternatives to oil and gas – and lower its bills” in the February 7, 2005 Fortune magazine, p. 97, that I have attached to this testimony.

The Kansas Net Energy Balance

In 2003 the Kansas Energy Plan received widespread attention for first reporting that Kansas had become a significant net energy importer. The 2005 Kansas Energy Report, available on-line at <http://www.kansasenergy.org>, indicates that “Kansas continued to import a record amount of energy in 2004.” In fact, according to the report, “net energy imports in 2004 are estimated to be 479 trillion Btu, about 30 trillion Btu greater than in 2003. The estimated cost of net imports for 2004 is \$1.89 billion. By 2009, the state’s net energy imports are expected to increase to 557 trillion Btu, which could be valued at \$2.2 billion using today’s prices.” In other words, the state has moved from exporting energy and importing dollars from other parts of the nation to pay for that Kansas produced energy to importing energy and exporting Kansas’s dollars to other places to pay for that energy.

The Kansas Energy Council recognizes that low-cost, reliable and sustainable energy is critical for the state's overall economic well being and Dr. Allison set forth, to a joint meeting of the House and Senate Utilities Committees on January 13, 2005, the following goals:

- Energy Self Reliance
- Restore Kansas energy exports
- Low-cost, reliable, sustainable energy produced in Kansas where possible

The Vast Wind Energy Potential in Kansas

According the 2005 Kansas Energy Report:

"Kansas' wind-energy potential ranks somewhere between first and third in the nation and is at least 10 times greater than the state's current electrical demand. Midwestern states, including the Great Plains, have enough potential in their windiest sites alone to meet the entire nation's electricity needs. Should Kansas or any of the Plains states choose, electricity from wind power could become another exportable resource, much like grain, beef, and airplanes."

The 2005 Kansas Energy Report goes on to say:

"However, the state's wind-energy potential remains largely untapped. At present, eleven other states have more installed wind-generation capacity than Kansas. Currently, the Gray County Wind Farm, near Montezuma, is Kansas' only utility scale wind farm. This 112-megawatt wind farm, with enough generating capacity to power 33,000 homes, is owned and operated by FPL Energy of Juno Beach, Florida, and began generating electricity in late 2001. It currently provides 5.5% of the total power of Aquila's Kansas customers. Based on its first two years of operation, the Gray County Wind Farm's capacity factor (the percentage of time that the wind turbines generated electricity) averaged 40%, which is one of the highest capacity factors at a wind-energy facility in the nation."

Finally, the 2005 Kansas Energy Report says:

"For the wind industry to reach its full potential in Kansas.... The Kansas Legislature should adopt an additional State PTC (production tax credit) and consider whether new incentives are necessary to help the mid-scale and small –scale projects compete economically. While wind development is first and foremost energy production, the economic benefits to rural communities where they are built should continue to be factored into the equation."

In short, the solution to the problem of the state exporting \$2 billion/year to import 557 trillion Btu per year can be solved by developing the vast wind energy resources that exist in western Kansas. Kansas can achieve the goals set out by the Kansas Energy Council of energy self reliance, restoring Kansas energy exports and developing low-cost, reliable, sustainable energy produced in Kansas. A small state production tax credit is one step toward achieving those goals. Such a step will reap great rewards economically to Kansas for many years to come. We urge your support of S.B. 280.



environmental update
find out about issues that matter to you

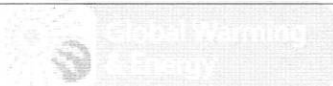
Select an Issue

my backyard
stay in touch with events, issues and chapters in your area

Select a Place

my chapter
personalize it!

Explore, enjoy and protect the planet



global warming & energy

Clean Power Comes on Strong: Wind Energy



backtrack:

- Environmental Update *Main*
- Global Warming *Main*

in this section:

- What is Global Warming?
- Factsheets and Reports
- Bush's Flawed Energy Plan
- Clean Car Solutions
- Clean Energy and Energy Efficiency Solutions
- SUVs and Global Warming
- The Freedom Package for Fuel Economy

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Winds have shaped the rugged West Texas landscape for ages. Now those winds are fueling a clean energy revolution that is revitalizing the West Texas economy. Since 1999, wind energy has infused the state with more than \$1 billion in capital investment, providing farmers, ranchers and local communities with new sources of income.

Wind energy is the fastest-growing source of power on the planet. With our tremendous wind resources, the United States can become a world leader in wind energy. Already, wind turbines in this country produce enough electricity to meet the needs of more than 1 million households. A single modern wind turbine can produce enough power to meet the annual electricity needs of 500 average homes.

In recent years the price of wind has fallen dramatically, making it increasingly competitive with fossil fuels. The federal government's National Renewable Energy Laboratory projects that the price of wind energy will fall even

further over the next decade, making it the most economically competitive renewable energy technology.

As a growing power source, wind energy can become a major force for economic development. Wind development can save consumers money and bring construction jobs, leasing royalties, and increased tax revenues to local communities. Supplying even 5 percent of the country's electricity with wind power by 2020 would add \$60 billion in capital investment in rural America, provide \$1.2 billion in new income for farmers and rural landowners, and create 80,000 new jobs.

Farmers and ranchers can also use wind power as a new "crop," earning \$2,000 per year in lease payments per turbine, helping insulate them from falling commodity prices. A single turbine takes up less than a quarter of an acre, including access roads, and farmers can grow crops or graze livestock right up to the base of the turbines.

How Does it Work?

Standing as tall as 300 feet to capture the full force of the wind, modern wind turbines use state-of-the-art technology to turn wind into electricity. When the wind blows, the blades begin to spin, turning an electric generator to create electricity. This electricity is carried through the turbine tower underground, where it feeds into the electric grid.



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vol. 29 no. 1

Voice of the Kansas Sierra Club

Chapter to Promote Wind Power in 2005 Legislature

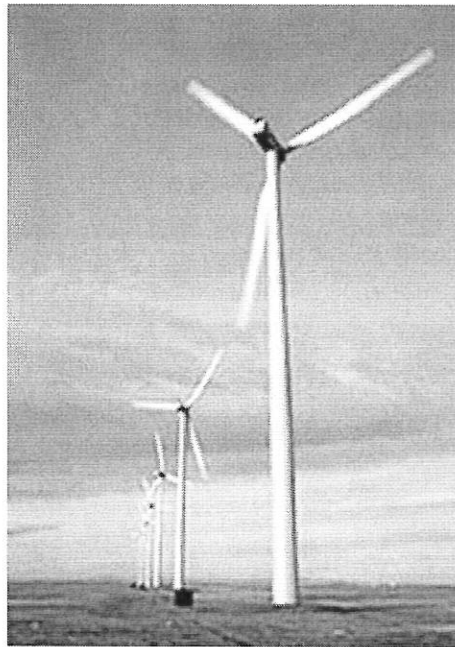
By Craig Volland, Conservation Chair

The Kansas Chapter is launching a campaign to promote both energy efficiency and wind power in Kansas. Our slogan will be Energy Leadership and Clean Air in Kansas. One of our first actions is to promote wind power in the upcoming legislative session.

Kansas has become a net importer of energy. At the same time both Wichita and Kansas City have a problem with air quality. Prior to the unusually cool summer of 2004, both metro areas came close to exceeding the standard for ozone smog. A new vision for energy policy can help solve both these problems. It would involve a focus on energy efficiency and on getting wind power off the ground in western Kansas. Such a new policy would help achieve clean air while lowering power costs and increasing tax revenues from economic development.

No to Coal. It's simply unwise to burn more coal to produce electricity. Coal fired power plants are a major source of air pollution including oxides of

nitrogen (NOX) and fine particulate. In Kansas City, the Mid America Regional Council's new model has identified NOX control as critical to staying within the ozone standard. Recent studies have determined that fine particulate can increase overall mortality in our population. Also coal plants are the largest source of mercury emissions in the United States. Last year the Centers for Disease Control stated that one in six women of child bearing age have levels of mercury in their blood that could harm a fetus.



New coal plants would also be a major source of carbon dioxide which contributes to global warming. According to regional models, climate change is likely to increase urban flooding in the Kansas City area but increase drought in western Kansas. The federal government under the Bush Administration has walked away from the Kyoto Accord and is now pushing a new coal gasification process as the answer to dirty coal. But it's 10 to 15 years away from general use. Thus the conventional coal plants now proposed in Kansas and Missouri will further solidify

See Wind on page 5



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<i>New Food Choices Section</i>	pg 18-19

www.kansas.sierraclub.org

Wind continued from cover

the US position as the world's largest emitter of greenhouse gases. Each megawatt (MW) of wind power capacity displaces 2000 tons of carbon dioxide.

Yes to Wind. The good news is we don't need to burn more coal. Why would anyone want to, when we sit next to the Saudi Arabia of wind energy. The cost of generating electricity with wind at good sites has fallen rapidly in the past decade to about 3 cents per kilowatt-hour (net of the 1.5 cents/kwh federal tax credit) compared to about 4.5 cents for new coal-fired power plants. The cost of capturing mercury and carbon dioxide is not included in the coal figure. In fact the cost of coal fired power generation almost doubles when the environmental and health cost "externalities" are added in. Wind power costs are expected to continue to fall for the big wind turbines ideal for western Kansas.

The new 800 MW coal fired power plant proposed by KCP&L will cost in excess of \$1 billion. It will be located either just south of Atchison in Kansas or just north of Weston in Missouri. Likewise Sunflower Electric Coop in western Kansas is working with an investor to spend \$1 billion on a big new coal fired plant. We have yet to determine what rate increases will result from these facilities, but they are likely to be substantial. In contrast wind power can be phased in quickly, at lower cost, in sets of 50 or 100 MW as demand develops.

Advocates of coal and nuclear power are raising unsubstantiated claims against wind power. They claim that power utilities cannot rely on wind power because the wind doesn't blow all the time, i.e. that wind farms have a lower "capacity factor" than coal or nuclear.


It is critical to understand that the capacity factor relates only to costs of requiring stand-by capacity for when the wind generators are off-line. Governmental sources show that the requirement for fossil fuel back up is minimal so long as wind constitutes less than 20% of the power company's total generation portfolio. Since the utility companies in our region use very little wind power, we have a long way to go before bumping up against that limit. Finally this problem is much reduced for western Kansas facilities not only because wind resources are so good, but also because the terrain is ideal for the installation of the big turbines that can efficiently utilize lower wind speeds.

Cheaper to Save Energy. Even if we didn't have all this wind energy, it would still be cheaper to save energy rather than pay for new generating capacity. Power companies serving Kansas have done very little to encourage energy efficiency among their customers. In fact Kansas utilities rank last in the US for energy efficiency offerings to their rate payers. The Kansas Chapter will be developing information that will advise businesses and individuals on how to save energy. We will also be exploring ways electric utility companies can be given incentives to encourage energy conservation.

Needed: State Energy Leadership. Kansas has fallen behind other states in encouraging energy production from renewable

sources like wind. The upcoming legislative session will be crucial to bringing the vision of Kansas wind power leadership to a reality. A major barrier to using our vast wind energy potential is the lack of transmission lines in western Kansas. A bill is being drafted, modeled on a law passed last year in Wyoming that will create a state transmission authority similar to the Kansas Turnpike Authority. The new transmission authority would be able to sell bonds to finance new transmission capacity and facilitate easements for the lines.

In November voters in Colorado approved a measure requiring that 3% of their power come from renewable energy by 2007 and 10% by 2015. Kansas wind farms can sell some of this power, but new lines and equipment are needed to hook up with the grid serving that state. New lines are also needed to serve markets in Kansas and to the south and east. Since this would be a public authority, access to the lines, say for smaller scale local coop producers, would be guaranteed and not mediated by the utility companies. The bad news is that coal fired power generators could also use the lines. We will have to see how this sorts out during the legislative debate.

The legislature also needs to study the benefits of energy efficiency and to monitor the KCC's rate setting process to see what incentives can be provided to power companies to save energy rather than building new polluting power generators. Also we expect a bill to be introduced that will encourage the use of gas-electric hybrid vehicles in the state's fleet. 

Call To Action

The chapter has developed a fact sheet on wind power in Kansas. Please contact Brooks

Albery at b.albery@opinari-research.com, or the chapter at info@kansas.sierraclub.org to request copies. Write letters to the editor of your newspaper. **If you haven't already done so please join our legislative alert system.** Primarily during the January to early April legislative session you will be notified about important bills and asked to contact your legislator. **Please email Craig Wolfe at info@kansas.sierraclub.org to sign up for the alert list.**

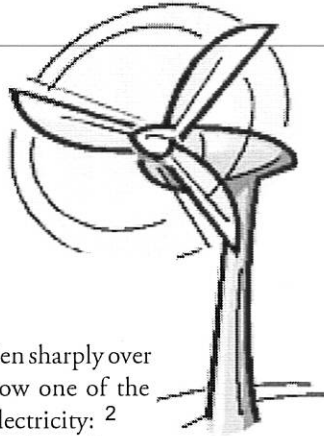


Feb/Mar 2005

Kansas Wind Power

The following is from a Kansas Sierra Club Wind tri-fold brochure. You can request copies at 913-299-4443 or info@kansas.sierraclub.org.

- **An Energy Opportunity for Today**
- **Meet Future Energy Needs Using Existing Wind Power Technology**



Wind Power Costs are Competitive ¹

- Wind power costs have fallen sharply over the last decade and are now one of the cheapest sources of new electricity: ²
- 2.6 ¢ per kWh for high wind speed sites and 4.8 ¢ per kWh for low wind speed sites; compared with
- 4.5 ¢ for new coal-powered plants. ³
- Wind power is a developing source of energy and costs are expected to fall 40% over the next decade. ⁴
- Wind Power costs are reduced when financed by public utilities and investor owned utilities. ⁵
- The environmental and health costs of fossil fuel (3¢-6¢ per kWh for coal and 0.5¢ to 2¢ per kWh for gas) are not currently incorporated into fossil fuel electricity pricing. ⁶

How does wind power benefit state economies?

State Economic Impacts

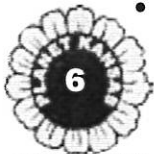
- Wind Power creates jobs; often in the poorest rural counties. Jobs include project management, implementation, consulting, operations, maintenance, construction, and manufacturing.
- Wind Power provides lease income for rural land owners.
- Wind Power companies often give money to schools and local governments in lieu of taxes.

Wind Power Benefits	
CATEGORY	AVERAGE PER 100MW ⁷
RURAL INCOME	\$293,000
PERMANENT JOBS	35.5

Is Kansas falling behind in promoting wind power?

State Policy Support

- Stable policy supporting wind power is critical for development. ⁸
 - o 18 states have Renewable Portfolio Standards
 - o 32 states have net metering



Feb/Mar 2005

- o 15 states have System Benefit Charges
- o 20 states have property tax exemptions
- Ninety percent of U.S. wind power generation occurs in 10 states. ⁹ Kansas is not a top 10 wind power state even though vast wind resources in western Kansas rank Kansas 3rd among states in potential wind energy.
- A strong vision for Kansas Wind Power is needed along with supporting policy in order for Kansas to succeed in developing its wind power resources.

Are there impacts on the Utilities?

- Wind Power can be built in 50MW or 100MW sets unlike the huge investments required for 500+MW coal electricity generation plants.
- Wind is free and wind power costs are highly stable allowing utilities to hedge future gas prices.
- Reductions in gas usage reduces demand and prices in the gas market, providing significant customer savings.
- Wind Power variability causes negligible impact on utilities if Wind Power is less than 20% of the utility's total generation. ¹⁰

Are there Environmental benefits from wind power?

- Wind Power emits no air pollution.
- Every 1MW of Wind Power displaces 2,000 tons of CO₂.
- Wind Power farms use only 3-5% of the land area leaving the rest for farming and grazing.
- Wind Power impacts on birds is small. If 100% of U.S. power were produced by Wind Power, bird deaths from wind would still be only 1 out of every 250 human activity related bird deaths. ¹¹
- The cost of coal-based electricity generation doubles when negative health and environmental externalities are incorporated, making wind power even more attractive. ¹²

¹ Wind Powering America: Clean Energy for the 21st Century (revised), DOE, EERE, Sep., 2004.

² The Economics of Wind Energy, AWEA, Mar., 2002. Includes a 1.5¢ per kWh tax credit.

³ www.gasification.org/Docs/2004_Papers/29BOOR.pdf. Adapted for burning Wyoming coal.

⁴ Expanding Wind Power: Can Americans Afford It?, Renewable Energy Policy Project, Research Report #6, 1998.

⁵ Wind Power Costs Depend on Ownership Financing, Wind Energy Weekly, Aug., 1996.

⁶ Op. Cit. 2.

⁷ Averages derived from reported economic impacts from projects around the U.S.

⁸ Wind Power's Contribution to Electric Power Generation and Impact on Farms and Rural Communities, GAO, Sep., 2004.

⁹ Op. Cit. 8.

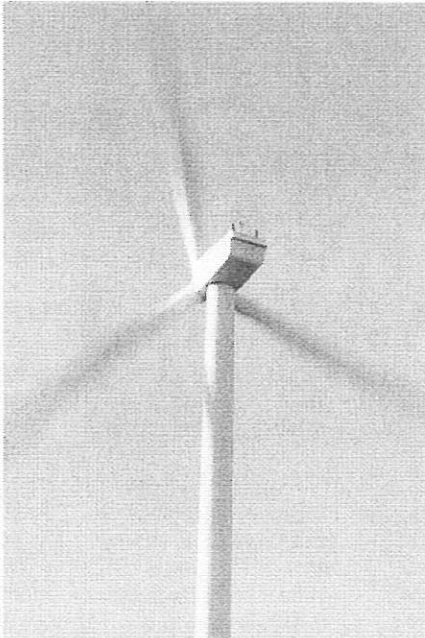
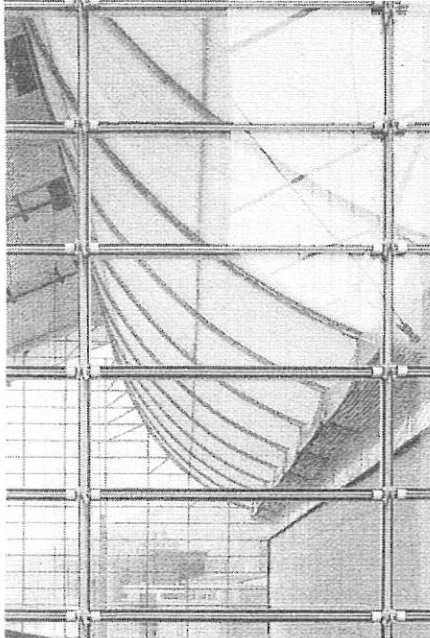
¹⁰ Op. Cit. 8.

¹¹ Op. Cit. 1.

¹² Op. Cit. 2.



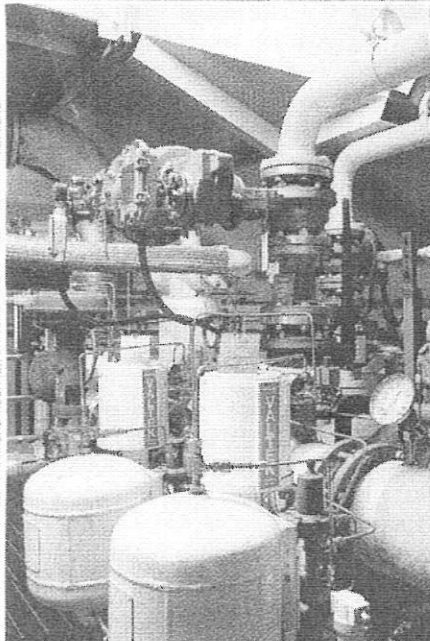
Taking on the ENERGY CRUNCH



How corporate America is working to develop alternatives to oil and gas—and lower its bills.

BY MARC GUNTHER

The U.S. economy runs on cheap, abundant fossil fuels—but that can't last. Even if supplies of oil, coal, and natural gas were unlimited, burning them in mass quantities generates greenhouse gases that contribute to climate change. With oil and gas prices rising, businesses like General Electric and General Motors are plowing money into new technologies and finding ways to cut their own energy consumption. Here are some innovative solutions, beginning with a renewed commitment to an age-old energy source.



GE'S WIND PUSH

The company invests billions in air power.

In 1888 a brilliant inventor named Charles Francis Brush built a giant wind turbine in the backyard of his mansion in Cleveland that, for the first time, turned wind into electricity on a large scale. "As an example of thoroughgoing engineering work, it cannot be excelled," wrote the journal *Scientific American*.

Now that breakthrough is finally becoming big business in the U.S. General Electric, which acquired Enron's wind-manufacturing assets out of bankruptcy, expects to generate about \$2 billion in revenues this year from the sale and servicing of wind tur-

CLOCKWISE FROM TOP LEFT: RAINBOW KOCH (2); CHRIS MAUELLER—REDDUX; ADAM FRIEDBERG



LAMON BOGNER

Dakota, Texas, and Kansas—were it fully developed, would match the electrical needs of the entire country,” says Mike Pasqualetti, a geography professor at Arizona State University.

Today’s wind turbines are bigger, more efficient, and more reliable than their predecessors. GE’s 1.5-megawatt turbine, which produces enough electricity to power 460 homes, is 328 feet tall (as high as a 32-story building) and has rotors that stretch 231 feet across (longer than the wingspan of a Boeing 747). A utility-scale turbine, as a result, now produces electricity for 3 cents to 4 cents a kilowatt hour, after tax incentives are taken into account, down from 20 cents a kilowatt hour in the early 1980s. That’s competitive with coal or new natural gas plants in parts of the country.

Like the rest of the energy industry, wind power needs—and gets—government help. A production tax credit first adopted in 1992 now provides about 2 cents per kilowatt hour in benefits to wind farm owners. But because the tax credit has lapsed several times, including for nine months last year, the industry has suffered from boom-and-bust cycles during which companies failed, plants were shut, and workers lost their jobs.

Wind energy has also been aided by so-called renewables portfolio standards that have been adopted by 17 states, including California, Texas, New York, and Massachusetts. The rules differ from state to state, but they essentially require utilities to buy set percentages of their electricity from renewable sources. In Texas, for instance—where then-governor George W. Bush signed the standards into law in 1999—utilities must add a total of 2,000 megawatts of renewables to their portfolios, based on their yearly electricity sales, by 2009.

Substantial obstacles remain to wind power’s growth. The production tax credit expires at the end of 2006; without an extension, wind-turbine production may go through another downturn. Transmission problems are another major impediment. High-wind areas, where the costs of wind power are lowest, tend to be far from population centers where demand is great.

Perhaps the biggest limit to wind power’s growth is its intermittent nature. “Mother Nature decides when we are going to make electricity,” says Michael O’Sullivan, a senior vice president of FPL Energy, which has invested more than \$2 billion in wind projects in the past few years.

It’s impossible to know what the pioneering Charles Francis Brush would have thought of all this. His backyard turbine ran for 20 years, storing electricity in batteries in his basement, before he shut it down. Brush, who also invented arc lamps to light streets, became a wealthy man whose company, Brush Electric, merged with a competitor in 1889, and two years later combined with Thomas Edison’s Edison Electric—to form General Electric.

FEEDBACK mgunther@fortunemail.com

bines. FPL Energy, the power generation unit of the \$9-billion-a-year FPL Group, has become the biggest owner of wind farms in the U.S. It operates 43 of them in 15 states that account for about 40% of the nation’s wind capacity. MidAmerican Energy, a company that is 80%-owned by Warren Buffett’s Berkshire Hathaway, began construction this past fall on an Iowa wind farm that will be one of the world’s largest. These firms bring capital and credibility to an industry that has historically been short of both.

Wind energy is now the fastest-growing form of electricity generation in the world. Global demand is expected to increase by more than 15% a year. “This industry has gone from a science project to something that is viable, on a utility scale, in the past five or ten years,” says Steve Zwolinski, president of GE Wind Energy. In Western Europe, where fossil fuels are costly and renewables are heavily subsidized, wind produces more than 25% of the electricity needs of some regions. By contrast, wind fuels less than 1% of the electric power in the U.S. “Will it get to 50% in the U.S.? Probably not,” says GE’s Zwolinski. “But will it get to 10%. 15% long term, maybe a little more in the Midwestern states that are wind rich? Yes, I think it can.”

The appeal of wind power is obvious. Fuel costs are zero. So are emissions. Supply is plentiful. “The winds of the Great Plains are so abundant that the energy potential from just three states—North

THE BLUE CANYON WIND farm near Lawton, Okla., sells power to the Western Farmers Electric Co-op. Today’s turbines are bigger and more efficient than their predecessors.



GACHES, BRADEN, BARBEE & ASSOCIATES
PUBLIC AFFAIRS & ASSOCIATION MANAGEMENT

825 S. Kansas Avenue, Suite 500 ♦ Topeka, Kansas 66612 ♦ Phone: (785) 233-4512 ♦ Fax: (785) 233-2206

**Senate Tax Committee
Testimony of Kansas Wind Coalition
Regarding SB 280: Kansas Production Tax Credit for Wind
Submitted by Ron Gaches
Gaches, Braden, Barbee & Associates
Tuesday, March 8, 2005**

Thank you Senator Allen and members of the Committee for this opportunity to speak in support of SB 280 on behalf of the Kansas Wind Coalition.

The benefits of wind energy are well documented. As a source of electricity, wind energy is pollution free. Unlike nuclear or coal fired electric energy facilities, wind energy imposes a minimum impact on its surrounding area. There is no risk of nuclear melt down and no risk of harmful emissions being emitted from a wind facility.

As a source of energy to generate electricity, wind has another important advantage; there is no charge for the wind. Unlike our primary sources of electricity (oil, natural gas, and nuclear) wind energy has no energy cost.

This advantage should not be discounted. Natural gas and oil prices have roughly doubled in the past five years. Estimates are that energy costs are likely to continue increasing in the future. According to the February 19, 2005 issue of the *Economist* magazine, if current projections for worldwide oil demand are accurate, oil prices may hit \$70 per barrel by 2007. That forecast assumes no disruption in the supply of oil from the Middle East. If the Middle East becomes unstable, the forecast price for oil reaches \$80 per barrel.

While increased oil and gas prices will most certainly be good news for Kansas' producers, our oil and gas fields are very mature and production is declining. In fact, after decades of being a net energy exporter, Kansas has already become a net importer of energy. This reversal is due to the decline of our oil and gas production and to our enormous purchases of coal from out of state.

Wind energy provides Kansas and the United States with the opportunity to become more energy independent. Now, I'm not suggesting that wind energy is a magic bullet to achieve energy independence. But, with the use of other renewable resources like ethanol, and continued development of our oil and gas reserves, Kansas and the U.S. can become more energy independent. This has been a major goal of the all recent Presidents, Bush, Clinton, Bush and Reagan.

Assessment & Taxation
Date 03-08-05
Attachment # 3

Kansas has the potential to be an important player in the emerging wind industry. According to the American Wind Energy Association, Kansas ranks number three (3) for wind energy potential. We have very good wind throughout much of Kansas and we have great wind in parts of the state.

Our ability to harness our wind potential is hindered by the location of our major electricity transmission lines. Western Kansas has very good potential for wind development, but lacks transmission capacity to bring wind energy to market. Conversely, the Flint Hills have outstanding wind energy potential and better access to transmission access, but the State has dramatically limited our ability to locate wind energy resources in the Flint Hills.

Notwithstanding our great wind energy potential, Kansas has relatively modest wind energy investment. Meanwhile, many other states are moving rapidly to capitalize on their wind energy potential:

Colorado – 229 MW installed
Illinois – 51 MW installed with 500 MW planned
Iowa – 472 MW with 580 MW planned
Kansas – 113 MW installed and 180 MW planned
Minnesota – 594 MW with 135 MW planned
Nebraska – 14 MW with 60 MW planned
North Dakota – 66 WM with 19 MW planned
Oklahoma – 176 MW with 228 MW planned
South Dakota – 44 MW
Texas – 1287 MW with 91 MW planned
Wyoming – 284 MW

The states that have installed and planned the highest amounts of wind energy include several states that rank lower than Kansas in wind energy potential. It's worth asking, why have these states moved forward while Kansas has fallen short of realizing its wind potential?

The states that have successfully stimulated wind energy production have relied upon renewable energy portfolio standards, production tax credits and property tax abatements. Several years ago Kansas enacted property tax abatement for renewable energy sources, including wind. But since that time there has been significant uncertainty associated with wind energy development in the Flint Hills. Efforts to prevent wind energy development in the Flint Hills have resulted in litigation, attempts to eliminate the property tax abatement, proposals to impose additional development requirements on wind projects, and a de facto prohibition by Governor Sebelius against wind projects in a core area of the Flint Hills.

In addition to these specific obstacles to development, there has been a general smear campaign against wind energy waged by those who are opposed to wind projects in the Flinthills. These attacks are largely without merit.

Wind energy development is not damaging to the ecosystem and will not ruin the Flint Hills.

Wind energy development will not eradicate the prairie chicken population in the Flint Hills. If the Kansas legislature is truly worried about the prairie chicken population you should prohibit hunting prairie chickens and impose restrictions on spring burning of the prairie.

Wind energy will not eliminate the potential for other economic development opportunities in the Flint Hills, including tourism.

Wind farms will never occupy every ridgeline of the Flint Hills. No one has proposed that they should, and the potential market for wind energy will never support anything approaching the level of development that wind opponents are suggesting might occur.

Wind energy will:

- Generate significant lease income for many landowners
- Provide a pollution free source of electricity
- Generate significant payments in lieu of taxes to support local government services
- Create hundreds, even thousands, of short-term construction jobs
- Create many permanent, well paying jobs in rural Kansas to maintain wind projects
- Help Kansas and the United States become more energy independent

The production tax credit and community wind energy incentive contained in SB 280 will make Kansas more attractive to wind energy development. If you want to make the bill an even greater incentive to wind development you could eliminate the geographic restriction imposed in Section 1(b) of the bill.

Without the opportunity to develop wind projects in the Flint Hills Kansas will not realize its wind energy potential. There are no immediate solutions coming forward to address the lack of transmission capabilities in Western Kansas. By the time Kansas has address transmission capacity issues, more aggressive states will have filled the marketplace with wind energy. The window of opportunity is open now, but won't stay open forever.

Those who are opposed to wind energy development are hoping that the tactics they have employed will discourage wind developers from pursuing projects in Kansas, and in the Flint Hills particularly. I believe that has already started to occur. Colorado, Oklahoma, Texas, Iowa, Minnesota and Wyoming are all rolling out the welcome mat for wind energy developers. Meanwhile, Kansas wind projects are confronted with litigation, smear campaigns, an uncertain investment climate and an "off limits" sign on the most promising area of wind potential in the entire country.

I encourage you to examine the facts about wind energy. Don't be misled or confused by exaggerations or undocumented assertions. Wind energy is part of the solution, not the problem. The only question is whether Kansas will participate in the benefits. Passage of SB 280 will encourage local governments to invest in wind energy and encourage wind developers and utility companies to make wind investments in Kansas.

PUBLIC POLICY STATEMENT

SENATE COMMITTEE ON ASSESSMENT and TAXATION

RE: SB No. 280 – an act concerning income taxation; relating to credits; renewable energy facilities and community wind energy facilities.

March 8, 2005
Topeka, Kansas

Testimony provided by:
Brad Harrelson
State Policy Director
KFB Governmental Relations

Chairperson Allen, and members of the Senate Committee on Assessment and Taxation, thank you for the opportunity to appear in support of SB 280. I am Brad Harrelson, State Policy Director—Governmental Relations for Kansas Farm Bureau. KFB is the state's largest general farm organization representing more than 40,000 farm and ranch families through our 105 county Farm Bureau Associations.

Kansas ranks high in wind velocity—3rd in the nation in total wind potential behind North Dakota and Texas. Those three states have the potential to supply enough energy to meet the needs of all of the lower 48 states. Kansas Farm Bureau, through its yearlong policy development process, has adopted policy, which supports the development of wind as a renewable energy resource - a resource which could play a significant role in revitalizing the Kansas economy. Furthermore, we support tax credit incentives to encourage development of wind energy facilities. It is imperative that we recruit and attract interested parties with appropriate enticements to invest in Kansas and harvest this source of renewable energy.

Unfortunately, this bill attempts to disadvantage certain regions of the state by denying several counties access to the proposed tax credits. As you know, KFB has long and vigorously supported landowners rights. Given that history, and our belief that those who own and operate land should have the responsibility for land use and development; we believe that government should not halt development nor limit the size of any business. Our preference would be to extend income tax credits to all wind energy facilities developed in Kansas, regardless of location or size.

It is our belief that local governments are the most appropriate place for this debate to occur. Our members understand the need for cultural development and the protection of our resources. We have long encouraged them to become involved in planning and development of zoning ordinances to prevent undesirable land use patterns. Consequently, these activities are best addressed at the local level.

In conclusion, Kansas Farm Bureau respectfully urges your support of wind energy. Should you take action on SB 280, we ask for your consideration regarding our stated concerns. Thank you, once again, for the opportunity to appear before you and share the policy of our members. KFB stands ready to assist as you consider this important measure. Thank you.

Testimony before the Senate Assessment and Taxation Committee
Regarding SB 280 – Wind Incentives
Presented by Jennifer States, Managing Director
J.W. Prairie Wind Power LLC
3211 Clinton Parkway Court, Suite 2
Lawrence, KS 66047
Tuesday, March 8, 2005

Chairman Allen and members of the Senate Assessment and Taxation Committee, thank you for the opportunity to speak today on SB 280. My name is Jennifer States, and I am the Managing Director of JW Prairie Windpower. I have also served as a member of the Governor's Wind and Prairie Task Force and a subcommittee member of the Kansa Energy Council. I am here today to testify in support of a state Production Tax Credit and to discuss the many benefits of wind energy.

Prairie Wind Power is a Kansas based LLC, with its headquarters in Lawrence. We are enthusiastically working to develop wind projects in Kansas. For the past two years, our efforts have focused on the Munkers Creek Wind Project in Morris County. This wind project is located in the region known as the Flint Hills; but it will be sited on grazing and crop lands that are outside of the intact Tallgrass Prairie ecosystem as identified by the Governor's prairie mapping effort through the Kansas Geological Survey. We carefully selected and studied this site to ensure avoidance of intact tallgrass prairie. We strive to develop economically and ecologically sound wind energy projects that benefit all parties involved.

We are also working with John Deere throughout Kansas to develop a new model of wind energy known as community wind. These projects are typically 20 MW or less, and involve commercial wind turbines in small clusters. As you know, there are transmission constraints in Western Kansas that prevent the delivery of wind power to the major population centers in the state. Small size wind farms can be constructed now within the existing grid to serve the energy needs of local communities in Kansas. In addition, the financial structure of these projects provides greater local economic benefit.

Kansas's rural communities, like many rural areas in our nation, are in need of new development opportunities to improve the local economy. Wind energy is one such opportunity. New jobs and economic activity are created directly from building, operating, and maintaining wind facilities, as well as indirectly from local businesses supplying goods and services to support those activities. Continuing the commitment to develop wind power in Kansas through policy incentives will help spur development and expansion of wind energy related businesses. Wind power can be an important source of rural economic development.

Wind can serve as a new crop for farmers. Wind energy can be viewed as a value-added export product. Landowners can receive lease payments for the placement of turbines on their land and royalty payments for the wind. An analysis by the Union of Concerned Scientists found that farmers could increase the return on their land by 30 to 100 percent from leasing part of it for wind turbines while continuing to farm. As little as a quarter acre is used for each turbine and

the farmer can plow or ranch right up to the base of it. This income will then circulate in the local rural economy.

During construction, an estimated two jobs per megawatt are added to the local economy when local contractors are used for foundations, roads, towers, and electrical systems. When construction is complete, as many as five permanent jobs are created for each 50-100 MW of installed capacity. These ongoing operation and maintenance jobs are high skill, long-term jobs that draw from local labor sources.

Wind energy development will improve local economic activity. In Gray County for example, several local industries have experienced increased business due to the development of the wind farm. These include the local welding, hardware, lumber and convenience stores; as well as the rental, hotel, and restaurant industries. Wayne Markel, owner of Montezuma Lumber and Hardware, credits wind farm construction with about 10 percent of his monthly sales during the peak construction months. (The Legend, "Montezuma's Windfall", Shirley Buller, winter 2002)

Wind energy provides a new industry that can diversify the rural economy and increase community opportunities. During the construction phase of the Gray County wind farm, Montezuma Welding and Manufacturing Inc. was one of the many businesses that was able to provide supplies and services. In Nebraska, guide wires were needed for the construction of the two turbines built in Springview. The product generated by Daniel's Manufacturing in Ainsworth, NE earned them a contract to develop more cable for turbines throughout the US.

There is also the potential of tourism development due to the turbines. There is currently a great deal of interest and support for wind energy throughout the US, and tourists come to view the turbines and find out more about the wind energy resource. There is already evidence of the strong tourism interest in wind energy in Kansas. At the Wind Energy Conference held in Lawrence in fall of 2002, Andy Stanton from the Dodge City Tourism Office reported that of the 9,000 visitors to sign in at the nearby museum (Stauth), 1,300 came to see the Montezuma wind farm.

Wind is a homegrown energy source that can never be depleted. It is renewable, produces no pollutants, has a very small footprint for foundations, and is environmentally benign compared to other sources of cost competitive energy generation available today. Wind energy can improve the economic competitiveness of a region by enabling it to avoid additional costly environmental controls on other industries.

Wind development can diversify the energy mix of Kansas, and the nation, helping to stabilize long-term energy prices. Electricity from wind costs less than natural gas fired electric generation. Wind projects can reduce the cost of electricity for local communities. Now that Kansas is a net importer of energy, we need to develop additional sources of energy to improve the state's economy.

To achieve the many benefits of wind energy for the state of Kansas, incentives need to be in place to ensure the competitiveness of wind with other long established sources of energy. A state Production Tax Credit is an ideal incentive to ensure this competitiveness. The federal Production Tax Credit was designed to compensate for the subsidies received by fossil and

nuclear sources of energy. The “community wind” tax credit portion of this bill is especially important to encourage utilities to purchase energy from these smaller projects which cannot achieve the same economies of scale as the large wind projects. These projects can be constructed now within the existing Kansas Transmission structure, and the state PTC will encourage the utilities to purchase the wind energy to make these projects a reality. Because of the many benefits that will be achieved by developing the untapped wind energy resources of Kansas, we urge you to support a state Production Tax Credit.

TESTIMONY IN SUPPORT OF SENATE BILL NO. 280

**RESPECTFULLY SUBMITTED BY
KRYSTAL ENERGY CORPORATION OF
LENEXA, KS**

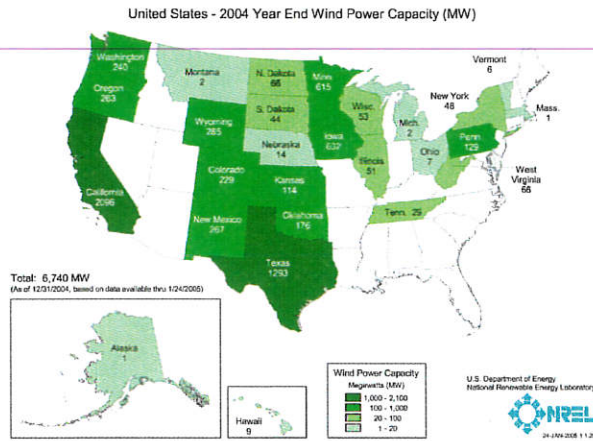
**HEARING FOR SENATE BILL NO. 280
TOPEKA, KS
MARCH 8, 2005**

Krystal Energy Corporation is based in Lenexa, KS and is engaged in the development of wind farms in the Midwestern U.S. and primarily in the state of Kansas. KEC is currently pursuing numerous projects in the state of Kansas, all of which would be favorably impacted by the passage of Senate Bill No. 280 ("SB 280") and several of which will almost certainly not be built in the absence of SB 280.

The following points are submitted in support of the expeditious processing and ultimate passage of SB 280 into state law.

- Many studies have shown the state of Kansas ranks in the top 3 states in the U.S. in wind energy potential. A study by the Public Interest Research Group in 2002 concluded that Kansas leads the nation in renewable energy potential, with 1704 terawatt-hours per year of wind energy – enough to power nearly 1/3 of the U.S. power demand.
- In the last few years, after decades of having been a net exporter of energy, the state of Kansas has become a net importer of energy as our sources for fossil fuels have matured and declined. Lawmakers now have the opportunity promote the harvesting of Kansas' significant wind resource and become a net exporter of energy again.
- Small wind energy projects are generally not cost effective. This is due to lower economies of scale on construction, financing, site development, and other costs. However, the electric grid in Kansas can only support a couple of additional large wind projects, limiting the state counties that will benefit from wind energy. If tax incentives are passed in Kansas, specifically SB 280, the economics of small wind projects would be improved enough to justify potentially dozens of small wind energy installations in Kansas, thereby spreading the benefits of this growing industry to many more communities across the state and allowing far more wind power to be developed in Kansas than would otherwise be the case. A similar tax incentive in Iowa and Minnesota created the financial environment for multiple small wind projects to be built, even in years when the federal PTC had not been renewed in a timely manner.
- Kansas has fallen behind many other states in the U.S., including neighboring Oklahoma, Colorado, Iowa, and soon Nebraska, most of which have already passed

some form of state-based incentive for the development of renewable energy, including renewable portfolio standards, grants, tax credits, or other direct subsidies. In the absence of the passage SB 280, Kansas will continue to fall further behind other states as they develop their renewable energy facilities, and will continue to become an even larger importer of energy.



- The intermittent renewal of section 45 of the internal revenue code, 26 U.S.C section 45, (the Federal production tax credit) over the last six years has caused a terribly inefficient “start-and-stop” cycle in the development of renewable energy projects in the U.S. (see front bar chart below). The current form of SB 280 is written in a such as way as to not only eliminate this impact to renewable energy development in the state of Kansas, but also increase the tax credit available to Kansas projects. The result will be the objective we believe is the intent of the proposed legislation – to enhance the renewable development incentive in the state of Kansas relative to other states.

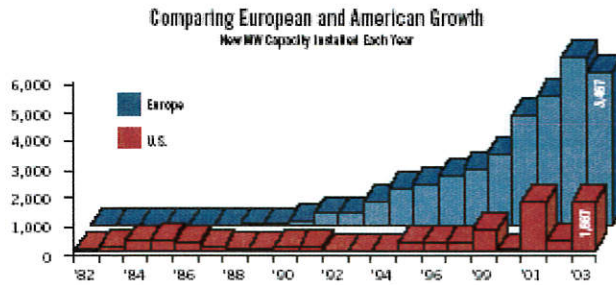


Chart courtesy AWEA

- Krystal Energy currently has several wind energy projects in the state of Kansas in the late stages of development which are having difficulty competing economically with the current sources of energy of our prospective customers. This is partly due to the recent increase in prices for wind turbine generators, caused by the very high demand currently for this equipment. This very high demand is a direct result of the renewal last October of the Federal PTC, nine months after it had expired. The result is a current "gold rush" to get this equipment installed and running before the Federal PTC expires again at the end of 2005. The passage of SB 280 would allow Krystal Energy's current Kansas projects to not only overcome this recent increase in the cost of wind turbine generators, but also be favorably competitive with current energy supplies in Kansas and other states for the long run. Ultimately, the passage of SB 280 would allow these projects to be constructed. Such projects would then provide a significant source of tax revenue for Kansas for decades after the 10-year expiration date of the currently proposed legislation.

Testimony in **opposition** to **S.B. 280**

Alan Pollom
 Vice President/State Director
 Kansas Chapter, The Nature Conservancy
 700 SW Jackson, Suite 804
 Topeka, KS 66603
 (785) 233-4400
apollom@tnc.org

On behalf of the Kansas Chapter of The Nature Conservancy

March 8, 2005

Before the Kansas Senate Committee on Assessment & Taxation

Dear Senator Allen, Chair, and Members of the Committee, thank you for the opportunity to testify in opposition of SB 280.

The Nature Conservancy is a nonprofit conservation organization dedicated to preserve the plants, animals and natural communities that represent the diversity of life on Earth by protecting the lands and water they need to survive. The Nature Conservancy and its nearly one-million members (7,000 in Kansas) have been responsible for the protection of more than 14 million acres of biologically significant land in the United States, including 56,000 acres in Kansas. The 8,616-acre Konza Prairie and the soon-to-be acquired Tallgrass Prairie National Preserve are examples of this success story.

I wish to begin by pointing out that The Nature Conservancy fully endorses the development of alternative, renewable energy resources, and we support the concept of appropriately sited wind generation facilities. Suitable placement is critical, however, as we are concerned about ecological impacts that utility-scale wind facilities could have in areas of high ecological value.

Of particular concern for us in Kansas is the Flint Hills, the last expanse of tallgrass prairie on Earth. The tallgrass prairie is *the* most altered ecosystem in terms of acres lost in North America, with only about 4 percent of the historic total remaining. Maintaining the unfragmented nature of this landscape is critical for the long-term survival for a number of grassland species.

The Commission for Environmental Cooperation (CEC) recently ranked the Flint Hills landscape as one of North America's most important grassland regions¹. The CEC is not alone in its glowing assessment of the Flint Hills. The Nature Conservancy has identified this landscape of tallgrass prairie as a priority conservation action site, and the World Wildlife Fund considers the Flint Hills as one of six grasslands in the coterminous U.S. with globally outstanding biological distinctness. In Kansas, the Natural Heritage Inventory of the Kansas Biological Survey rates the Flint Hills as one of the state's top conservation priorities.

The Nature Conservancy's conservation goal in the Flint Hills is to maintain the contiguous (unfragmented) nature of this last landscape of tallgrass prairie (from near the KS-NE border to our 38,000-acre Tallgrass Prairie Preserve in Oklahoma), and to improve the quality of site-specific habitats for target species and natural communities. We believe that wind power generating facilities situated within

¹ The CEC is a tri-national working group comprised of grassland experts from Canada, Mexico and the United States. The Flint Hills was ranked 6th in North America in terms of biodiversity, ecological uniqueness, and international significance

the Tallgrass Prairie of the Flint Hills are not compatible with our conservation goal, because such facilities will significantly impact the habitat landscape dynamics of the Flint Hills. Consequently, prairie obligate species will be negatively impacted with 350-foot-plus vertical structures that move, as well as service roads and accompanying traffic. Grouse biologists predict that prairie chickens will avoid otherwise suitable habitat by at least a one-mile radius from wind turbine setting. With many populations of prairie birds declining, wind farm developments in intact prairie will only accelerate their demise within the Flint Hills and elsewhere.

Senate Bill 280 seeks to protect the "Heart of the Flint Hills", by providing financial incentives for developing wind farms, and other renewable energy facilities, outside of certain boundaries. The Nature Conservancy applauds this effort to protect the Tallgrass Prairie in the Flint Hills; however, it is estimated that another 750,000 acres of irreplaceable intact tallgrass prairie, critical for maintaining the contiguous nature of the Flint Hills, exists outside of the stated boundaries.

In addition, SB 280 will help foster renewable energy facilities in other areas of high ecological importance, such as the Red [Gypsum] Hills, Smoky Hills, Konza Prairie, and Sand Sage Prairies. Even critically important Whooping Crane staging areas are at risk. In its current form, SB 280 could provide substantial state tax incentives for renewable energy facilities on over **5.5 million acres** (with a wind class of 5 or greater) of important intact native grassland habitat currently occupied by lesser and greater prairie chickens.

Kansas already has two major draws for wind farm developers: an exemption from property tax and exceptional wind resources. When those two facts are coupled with the existing federal Production Tax Credit and accelerated depreciation schedule, Kansas is in an excellent position to attract multiple wind power developments.

Without a doubt, development of alternative energy, including wind power, should be explored and encouraged, but responsible siting must be followed or else we risk trading one environmental problem for another. The conservation community feels strongly that wind power generating facilities should be sited in a way that does not interfere with important wildlife movement corridors and staging areas, and should be located on lands that are already altered or cultivated rather than intact native habitats. Such an approach would help to ensure that wind power creates the least ecological damage and controversy per unit of energy generated.

What is needed for Kansas is a strategy to steer wind energy into less sensitive areas. With over 40 million acres of already altered or cultivated land in Kansas (80% of the state), and 8.3 million acres of this total is rated with a wind class of 6 or higher (>16.8 mph), I am confident we can accomplish this goal. However, this will require a combination of incentives, disincentives, regulations and expansion of the geographical boundaries in the legislation based on ecological attributes.

The Nature Conservancy would like to offer any assistance necessary to draft alternate language that would promote the development of renewable energy facilities AND preserve the rich biological heritage of Kansas.

I would be happy to address any questions the Committee may have.

Alan Pollom
 State Director for TNC/Kansas Chapter
 Nature.org/kansas

Appendix: Conceptual alternative to SB 280

The Nature Conservancy offers, as a conceptual alternative, a 3-tiered system of incentives and disincentives to steer wind power development into appropriate locations and away from irreplaceable native habitats:

- 1) Wind power projects sited in areas not identified as having high ecological significance would receive a state production tax credit. Disincentive or impact fees would not apply.
- 2) Wind power projects sited in areas with high ecological value (see definitions) would receive zero state tax incentives and would be subject to an impact tax based on production (kWh).
- 3) Wind power projects sited in areas defined as intermediate habitats (see definitions) would not be eligible for state incentives for wind energy and would be assessed an intermediate impact fee.

Definitions

Level One: Intact native grassland landscapes (a)

Level Two: Grassland fragments (b)

Level Three: Not identified as having high biological significance

a.) Intact landscapes larger than 2,000 acres and > 90% intactness score.

b.) Native grassland fragments: 40-acre grid blocks of 50–100% native prairie, but with fewer than 2,000 contiguous acres of >90% intact prairie.



Photo courtesy of **BONUS Energy A/S**

Near Woodard, Oklahoma



7-6



7-6

Prepared Statement of
Christopher C. Pflaum, Ph.D.

to
Senate Committee on Assessment and Taxation
on Senate Bill No. 280

March 8, 2005

SB280 is premised on poor economics, is structurally flawed and vague and is bad public policy. As a professional economist who has spent his entire career in energy economics and utility regulation policy, I find this proposed legislation to be without merit, bordering on disgraceful. The likely revenue loss is staggering and the probability of the State of Kansas making payments to wind developers under this bill is a certainty. The question is not whether the State will pay, rather it is how much.

To illustrate the fact that wind developers will have no taxable income, hence qualify for payouts under SB280, for the first five years of operation, I have constructed an income forecast for a typical 200 MW project.

Operating and Financing Assumptions

Price per Kwh	\$	0.025
Federal Subsidy per Kwh	\$	0.018
MW Capacity		200
Operating Cost per Kwh	\$	0.0050
Cost per kw	\$	1,000
Depreciable Life (Years)		5
Percent Financed		80%
Financing Rate		7.5%
Capacity Factor		40%
Mwh per year		700,800
Plant cost	\$	200,000,000
Hours / Year		8760

I have used assumptions that are favorable to wind economics. For example, few wind projects every achieve 40% of their theoretical capacity and assuming operating costs of one-half cent per kilowatt hour is conservative. The rate, 2.5¢ per kilowatt hour is half of what most wind developers believe is required to be profitable but it is the rate that Scottish Power has negotiated with Empire District Electric, is 4.3¢ after the federal credit and is a reasonable market rate given the low cost of utility-generated power in most of Missouri and Kansas.

Even with these favorable assumptions, however, our theoretical project loses money for tax purposes, hence would receive a subsidy from Kansas taxpayers under SB 280.

Pro Forma Income Statement

Gross Revenues	\$	17,520,000
Operating Cost		3,504,000
Operating Profit	\$	14,016,000
Depreciation (tax)		(40,000,000)
Interest Expense		(12,000,000)
plus Federal Credit		12,614,400
Overhead Allocation		?
Earnings before tax	\$	(25,369,600)

The reason for this is simple, accelerated depreciation will wipe out all profits at any electricity price within reason. Even if the price were doubled to 5¢, our hypothetical project would lose over \$5 million.

You may ask why anyone would build such a project given the amount of money that it would loose. The answer is that the combination of subsidies makes such a project a very attractive tax shelter. Assuming that the project is owned by investors in the 45% combined federal and state tax bracket, 45% of the wind farm loss is a dollar for dollar savings in taxes on other, profitable, ventures. Also, depreciation for taxes is five years and is a non-cash expense. The owners' cash flow from the project in the first year is as follows:

Owner's After-tax Cash Flow

Earnings before tax	\$	(25,369,600)
plus Depreciation		40,000,000
plus Tax Shield		11,416,320
Loan Amortization		(10,666,667)
After-tax Cash Flow	\$	15,380,053
Return on Equity		38.5%
After-tax Kansas Subsidy	\$	1,927,200
Adjusted Return on Equity		43%

Even without the Kansas subsidy, on a cash-on-cash basis, this is a very attractive project. The owners will recoup their entire investment in two and one-half years and have paid down one-third of their loan in five years, earning over 38% on investment plus any fees that they pay to themselves. If the owners allocated a portion of their fixed corporate overhead to the project, the financial results are even better. If Kansas makes a gift of .5¢ to them for every kilowatt hour that they generate, the economics look even better with a 43% return on investment and a two and one-half year payback.

As demonstrated above, we can be certain that any project built in Kansas will receive the maximum subsidy permitted under SB 280, were it to become law. The question then is, how much will this subsidy cost the taxpayers of Kansas. To answer this question, I calculated the subsidy to each of the plants listed in the *Kansas Energy Report* (Projects in italics are in the “heart of the Flint Hills” and not eligible for credits under the current bill. Projects expanded or proposed since the *Report* was issued are also not listed.).

Potential Tax Impact of SB 280

Project	MW	Tax Subsidy to Developers	
		@\$.005	@.018
<i>British Pastures</i>	100	\$ 1,752,000	\$ 6,307,200
Caney River	200	\$ 3,504,000	\$ 12,614,400
<i>Chase County</i>	100	\$ 1,752,000	\$ 6,307,200
Cloud County	125	\$ 2,190,000	\$ 7,884,000
Conestoga	200	\$ 3,504,000	\$ 12,614,400
Deer Creek	200	\$ 3,504,000	\$ 12,614,400
Elk River I	150	\$ 2,628,000	\$ 9,460,800
Elk River II	225	\$ 3,942,000	\$ 14,191,200
<i>Geary County</i>	100	\$ 1,752,000	\$ 6,307,200
Kiowa County	100	\$ 1,752,000	\$ 6,307,200
Munkers Creek	125	\$ 2,190,000	\$ 7,884,000
<i>Rosalia</i>	100	\$ 1,752,000	\$ 6,307,200
Smoky Hills	200	\$ 3,504,000	\$ 12,614,400
Spearville	100	\$ 1,752,000	\$ 6,307,200
Sunflower	30	\$ 525,600	\$ 1,892,160
Annual Sum	2055	\$ 36,003,600	\$ 129,612,960

As you can see, were the 2055 Megawatts of capacity proposed actually built, the Kansas taxpayers would subsidize these operations between **\$36 million and \$130 million in the first year, approximately \$150 million to \$600 million over five years.** This is between roughly thirty and one ninety percent of the amount that the Senate and House have proposed in increases in educational funding. What could we do for our children with this money? How can the State of Kansas possibly afford such largesse to Scottish Power and other out-of-state interests at a time that we are struggling to fund our schools? The simple answer is that Kansans cannot afford this reckless bill.

Some might argue that this tax giveaway is an investment. That is a foolish and hollow argument. If and when wind power becomes economical, it will be built without any subsidy. Developers are already in Kansas wishing to build because the combination of the federal subsidies, property tax abatement and other factors has attracted them here.

We do not get anything back for the subsidy. Good sites for wind turbines are limited in number. Encouraging excessive development of the resource at this time, when it goes untaxed, simply depletes the resource. Clearly, the incentives that exist under Federal law are more than sufficient to attract investment to meritorious projects.

The goal of tax policy in Kansas should be to ultimately tax the use of this resource. At this point in time, wind energy is not profitable and without tax and direct subsidies would not be developed at all. However, the cost of producing energy from the wind has fallen eighty percent since the 1980's and will fall further. Also, the cost of fossil fuels likely will increase in the future, making wind more economic. If the best sites are given away today, we will have little to tax in the future. By increasing the rate of return through state subsidies, we assure that the resource in Kansas will be exploited early and that Kansans will never receive adequate compensation for this resource. We also assure that the actual subsidies that the Kansas taxpayers provide to wind developers will be at the high, not low, end of the projected range – **perhaps over one-half billion dollars.**

Finally, as a parent, I would like to say that I am outraged that a giveaway like SB 280 is even being considered at the same time that schools in my community are being closed, programs being cut and teacher layoffs being considered. That a taxpayer subsidy of this magnitude would even be considered in times such as these is beyond comprehension and beneath contempt.

Christopher C. Pflaum
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Overland Park, KS 66212
(913) 642-3347 (Home)
(913) 981-7200 (Office)

Biography of Christopher C. Pflaum, Ph.D.

Chris Pflaum is President of Spectrum Economics, Inc., an Overland Park economic and utility consulting firm. Dr. Pflaum has an MBA with emphasis in Finance from the University of Miami and a Ph.D. in Finance and Operations Management from the University of South Carolina. He wrote his doctoral dissertation on utility finance and regulation.

After teaching Finance at East Tennessee State University and Southern Illinois University – Carbondale, Chris took a position with the Illinois Commerce Commission in which he was responsible for advising the Commission on the financial aspects of regulatory policy. He also served as Chairman of the National Association of Regulatory Utility Commissioner's Staff Subcommittee on Finance. He has authored numerous articles and given speeches on energy policy.

Dr. Pflaum has testified before the utility commissions of over a dozen states as well as the Federal Energy Regulatory Commission and the Federal Communications Commission. Among his clients in Kansas have been the City of Topeka, Williams Energy and the Kansas Department of Revenue. He has been a policy consultant to the U.S. Department of Energy, the American Public Gas Association and the Hazardous Waste Treatment Council of the United States.

Since 1984, Chris, his wife Kim and daughter Laury have lived in Overland Park. Kim is a past President of the Shawnee Mission Area Council of PTA's and is currently the Treasurer and member of the Board of Directors of the Kansas State PTA.

TESTIMONY OF JOHN HUND
ON BEHALF OF THE TALLGRASS RANCHERS
ON SENATE BILL 280
BEFORE THE
SENATE COMMITTEE ON ASSESSMENT AND TAXATION

March 8, 2005

Senate Bill 280 would cost Kansas taxpayers millions of dollars and we would get little in return: a few permanent jobs and cash handouts to a few communities. Rather, payments from the state to wind developers would be used to line their pockets and enhance what is already a very attractive return on investment. Furthermore, this bill does not protect the Flint Hills from unwanted industrialization despite its pretense to that effect.

First, the costs would be prohibitive. Senate Bill 280 provides for two types of tax credits and refunds. Let's assume that the Governor's goal of 1,000 megawatts of wind energy in Kansas is reached by developers who take advantage of the credits and refunds in Senate Bill 280.

Under Section 2 of Senate Bill 280, if the Governor's goal of 1,000 megawatts from wind were reached, the developers would be entitled to over \$17 million per year in tax credits and refunds.

Even more alarming, under Section 1 of Senate Bill 280, if the Federal Production Tax Credit for wind energy were not in effect, developers in Kansas producing 1,000 megawatts from wind would be entitled to an additional \$45 million per year. Over 10 years, we would be obligated to give them credits and refunds totaling more than \$450 million dollars.

Assessment & Taxation
Date 03-08-05
Attachment # 9

Industrial wind developments survive on tax subsidies. Federal tax credits, together with the accelerated depreciation enjoyed by wind developers, ensure that projects qualifying under Senate Bill 280 would have no income tax liability for at least five years. Senate Bill 280 provides that if the amount of the credit exceeds the amount of income taxes due, the difference is refunded to the taxpayer. Thus, just to accomplish the Governor's goal of 1,000 megawatts of wind, Kansas would pay over \$17 million per year in tax refunds to wind developers under Section 2 of the bill. And if the federal tax credits were not in effect, Kansas would have to pay developers over \$45 million per year under Section 1 of the bill. It is even possible that a developer could qualify for both the 1.3-cent and ½-cent refunds in both Sections of the bill at the same time.

In addition, wind developer's demonstrated track records suggest that when the tax benefits and depreciation are finished, so are the tower complexes. Kansas would be left with a multi-million dollar clean up, which Senate Bill 280 fails to address.

Why in the world would we consider paying millions of dollars to outside developers to come into Kansas when they have announced their intent to come in anyway, based upon the federal and Kansas incentives already in place?

Senate Bill 280 would provide no protection to the Flint Hills. Half of the Flint Hills is not included in the "Heart of The Flint Hills" designation in the bill. And although projects within the "Heart of The Flint Hills" would not be entitled to Kansas credits and refunds, developers interested in the Flint Hills will still be entitled to federal tax credits, have already signed land leases, and have announced they intend to stay. Putting carrots out in the yard will not keep rabbits out of the garden.

The more we learn about the wind industry, the more troubling it becomes. As shown by recent events in Butler County, we now know that developers can obtain condemnation rights to develop wind turbine complexes without so much as a public hearing. Those same projects are permanently exempt from paying the property taxes the rest of us must pay. It would add insult to injury for my tax dollars to be used to subsidize a developer so that it can condemn my property for a wind turbine complex. Please do not allow this bill, or anything like it, to move forward. I urge the Committee to recommend Senate Bill 280 unfavorably.

Sincerely,

John Hund

Paxico, Kansas

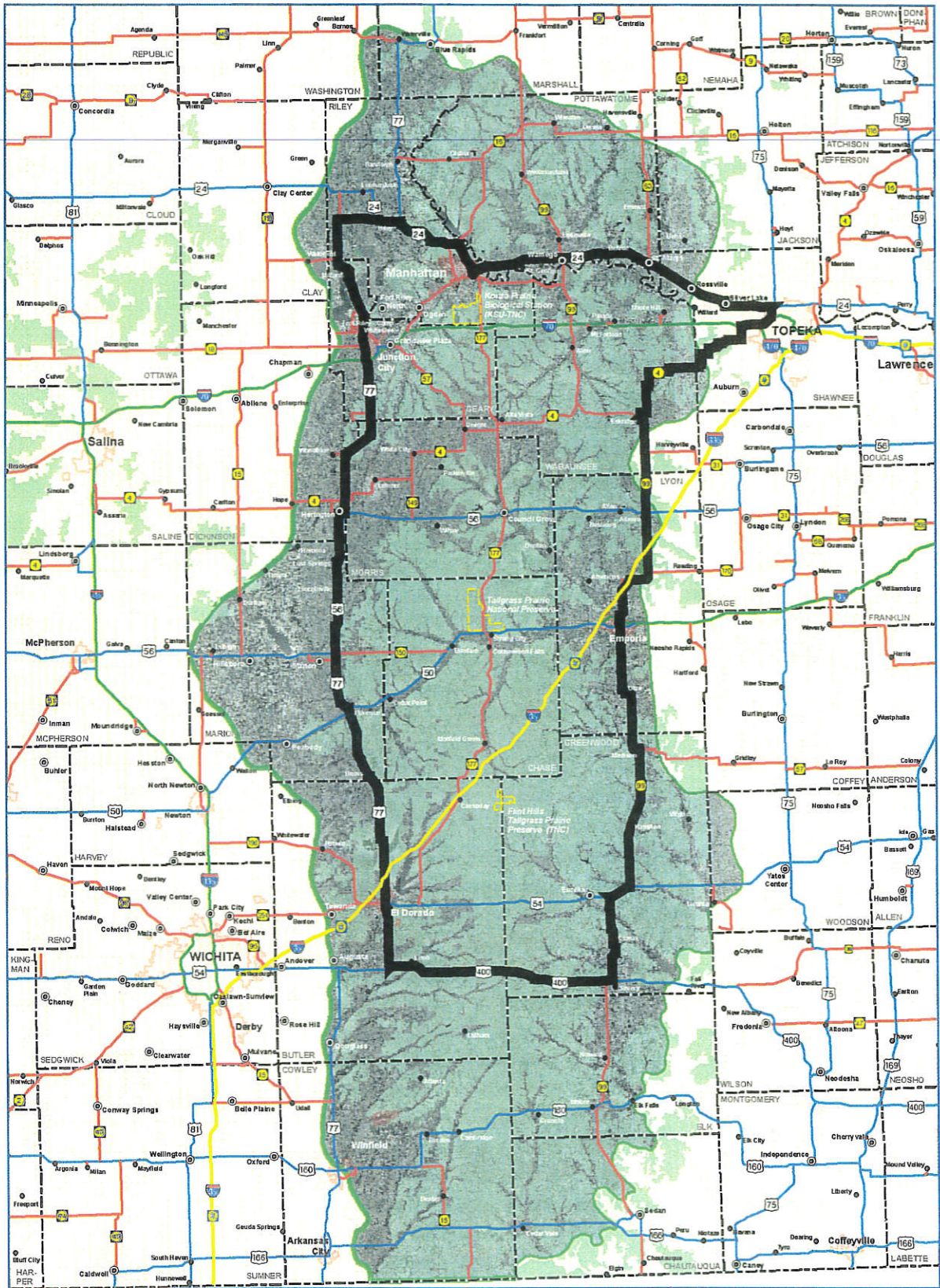
(785) 636-5501

EXHIBITS

Testimony of John Hurd
before the
Senate Assessment and Taxation Committee
on SB 280
March 8, 2005

- A. MAP: “Heart of the Flint Hills Area”, by the Kansas Energy Council (KEC) (second edition; December, 2004).
- B. MAP: “Existing and Proposed Wind Energy Projects in Kansas”, by the Kansas Energy Council (KEC) (January 3, 2005).
- C. Siting Guidelines for Windpower Projects in Kansas, by the Kansas Renewable Energy Working Group (KREWG) (February 26, 2002).
- D. Wind Power and Wildlife Issues in Kansas: the Position of the Kansas Department of Wildlife and Parks, by the Kansas Department of Wildlife and Parks, (November, 2004).
- E. Assessment of the Economic and Tourism Impacts of Siting Wind Energy Developments in Kansas Natural Areas, by FERMATA, Inc., for the Kansas Department of Commerce Division of Travel and Tourism (2004).
- F. “Kansas Wind Energy: Wind Projects”, by the Kansas Energy Information Network (KEIN) (March 4, 2005).
- G. CERTIFICATE OF PUBLIC CONVENIENCE giving powers of eminent domain to Elk River Windfarm. Kansas Corporation Commission Docket No. 05-ERWE-499-COC, In the Matter of the Application of Elk River Wind farm, LLC, for a Certificate of Public Convenience to transact the business of an Electric Public Utility in the State of Kansas (December 20, 2004).
- H. DIAGRAMS: “The Scale of Wind Power”, by WINDUSTRY, “Perspective on Visual Impact: Relative Height”, (March 8, 2005).

Heart of Flint Hills Area



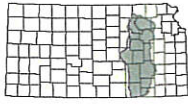
Legend		
	Population over 10,000	
	Population 1-10,000	
	Population under 1,000	
	Heart of Flint Hills Area	
	County Boundary	
	Kansas Turnpike	
	Interstate Highway	
	U.S. Numbered Route	
	State Numbered Route	

This map is a mosaic of digital orthophoto quarter quadrangles (DOQQs) created from 2002 aerial photography. Image areas outside the ecogion have been masked out. Final scale is 1:60,000, but the digital images used 1:12,000-scale National Accuracy Standards (NAS) scale control. The images were orthorectified using digital elevation models (DEM) and were georeferenced to the National Map Accuracy Standards. Each image has a 1-meter pixel resolution and covers one-fourth the area of a 1:25,000-scale DOQQ with an overlap of approximately 400 meters.

Map produced by the Data Access and Support Center (DASC), Kansas Geological Survey. Map data from DASC and Kansas Biological Survey (KBS).

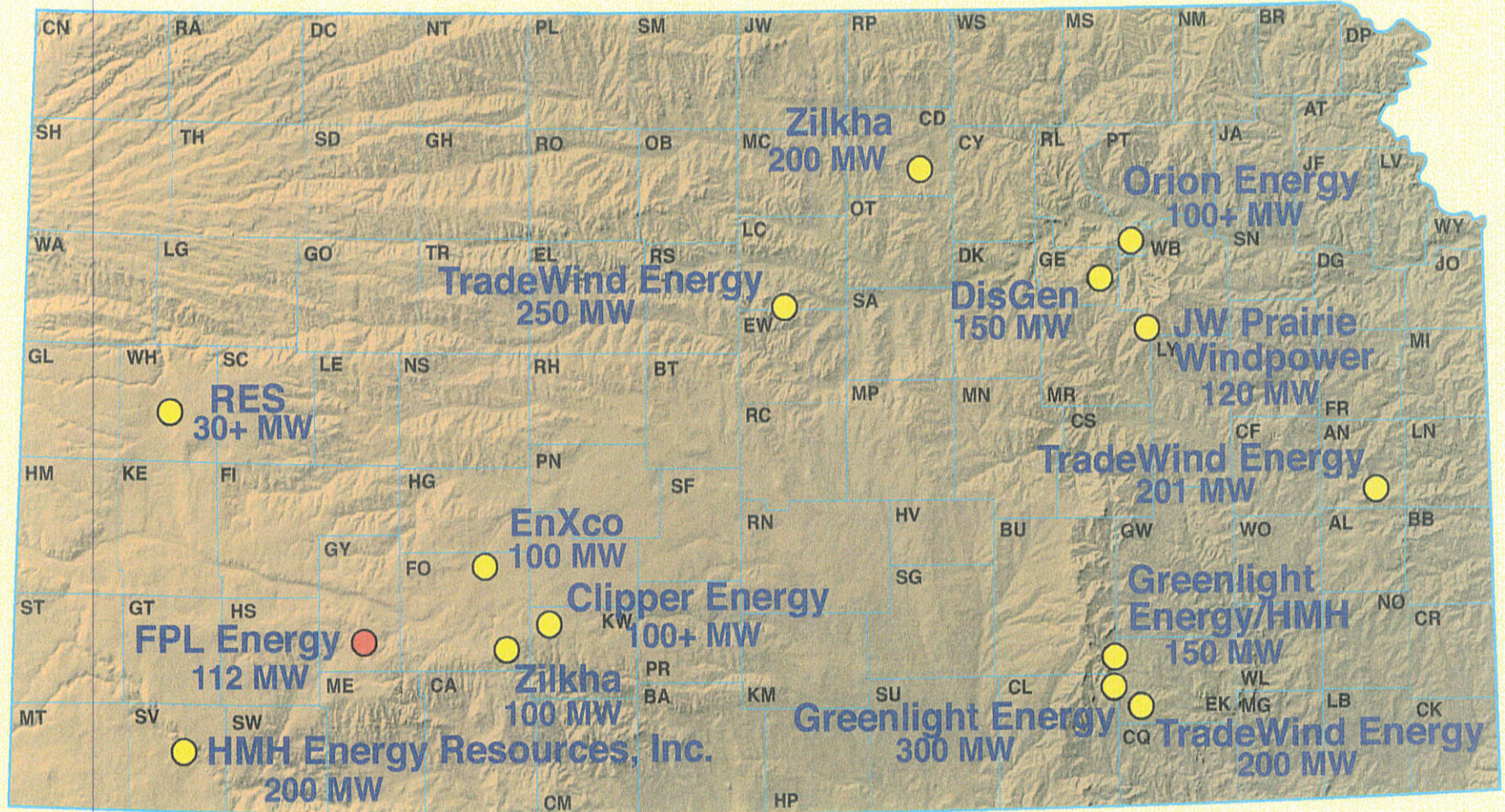
Ecogion boundary from "Ecogion of the Heart of the Flint Hills" paper under which map, description, summary tables, and photography. Weston, Virginia, U.S. Geological Survey (map scale 1:50,000).

Second edition, 1206, map and/or data accuracy are general implied.



0 2.5 5 10 15 20 Miles
 0 2.5 5 10 15 20 Kilometers
 Universal Transverse Mercator (UTM) Projection, Zone 14
 North American Datum of 1983

Existing and Proposed Wind Energy Projects in Kansas



- Proposed Wind Energy Site (approx. locations)
- Existing Wind Energy Site (approx. locations)

Siting Guidelines for Windpower Projects in Kansas

The Kansas Renewable Energy Working Group *Environmental and Siting Committee*

Introduction

The Environmental and Siting Committee of the Kansas Renewable Energy Working Group (KREWG) has drafted these guidelines for use by windpower project stakeholders as they consider potential project sites in the State of Kansas. Wind energy siting and permitting requirements vary from county to county based largely whether or not a county is zoned. Currently, statewide regulations for siting wind projects do not exist.

Much of the material for these guidelines has been taken from the National Wind Coordinating Committee's (NWCC) *Permitting of Wind Energy Facilities* handbook¹. The NWCC permitting handbook is an excellent resource for the siting process as well as the permitting process. Developers, regulators and other interested stakeholders are strongly encouraged to read the handbook and take its observations and suggestions under consideration.

The concept of siting is differentiated from permitting, as permitting pre-supposes an identified project site. However, the guidelines in this paper incorporate a continuum of activities and concerns that will occur during both the siting and permitting processes. It is not anticipated that all of the proposed guideline activities will occur exclusively in the siting process. The process of successfully siting a wind energy project often comes down to a matter of trade-offs between community acceptability and economic viability. This is the nature of a healthy interactive and reciprocal engagement and discussion.

NWCC identifies ten discrete categories or areas of consideration in the permitting process. Of these ten categories, eight are directly applicable to the siting process. Additionally, individual guidelines within these eight categories have been added or tailored to address a number of concerns and issues specific to the State of Kansas.

There are various regions of Kansas that have wind resources sufficient to support the currently required economics of wind energy development, including but not limited to the Flint Hills region of eastern Kansas and south central and western Kansas. Additional areas may be identified by ongoing studies or added as improvements in technology or transmission systems are made.

Because of the State's many suitable qualities for wind energy generation, these regions are currently experiencing a high level of interest in wind energy projects. Local regulators should anticipate that wind energy projects may be proposed in their area and address their preparedness to evaluate any projects proposed. Developers should anticipate the possibility of a saturation of proposed projects and assess whether the expense of a wind resource assessment is justified. All interested stakeholders should educate themselves on the facts of wind energy generation.

¹ The handbook can be found online at www.nationalwind.org/pubs/permit/permitting.htm.

Based on the discussions and conversations that have transpired in the Environmental and Siting Committee, wind energy issues in Kansas are similar to those in other states. Residents and other stakeholders feel protective of their local resources and environment, and are concerned that those resources not be exploited or degraded. Developers see an opportunity to establish new renewable energy generation facilities and may be surprised and/or defensive when their proposals are opposed by individuals citing concerns over the project's impact on the environment.

A critical element of a responsible approach to siting of windpower projects in Kansas is the recognition that projects must be evaluated and developed on their individual merits and on reasonably expected positive and negative impacts, collectively. Cumulative positive and negative impacts will undoubtedly accrue as development proceeds within regions and the State. It is reasonable to expect that these cumulative effects may differ both in type and in significance from those experienced at individual project sites. Cumulative effects on natural and biological resources, in particular, require consideration, but those in many other categories are also important. In the interest of long-term development and sustainability of the industry in a manner that considers the needs of all stakeholders, the context of the collective merits of projects should be evaluated.

There are numerous informational resources available to stakeholders in the wind energy siting process, many of which are readily available on the Internet. We have included a resource listing as Appendix A to this guidelines document in order to facilitate research and discovery by all parties. The listing is by no means comprehensive and inclusion, and the listing does not imply endorsement of the particular resources or the views they represent by the KREWG. Appendix A is intended to be a dynamic document that will hopefully be updated on a regular basis as resources evolve.

The principles outlined in this paper are neither mandates nor regulations. The goal of these guidelines is to encourage developers to select potential wind sites using a process that is acceptable to all stakeholders, to protect the State's natural beauty, to minimize deleterious effects to wildlife, to reduce suspicions, to facilitate the education and understanding of all those involved in the process, and to promote a responsible approach to the siting of windpower projects in Kansas.

1. Land Use Guidelines

- a. Contact agencies, property-owners and other stakeholders early in the process to identify potentially sensitive land uses and issues;
- b. Learn the rules that govern where and how a wind project may be developed in the project area;
- c. Review and address land use compatibility issues before leasing the land;
- d. In the spirit of interacting with all landowners in an equitable and fair fashion when proposing lease and option agreements, provide access or direction to objective background information that will allow the landowner to make a fully informed decision;

- e. Recognize there are concerns specific to each region in the State. Consult with appropriate experts, and research and evaluate the implications of local issues prior to selecting a specific site within the respective region;
- f. Because of the rarity and high conservation value of the tallgrass prairie it harbors, careful consideration should be given to the impact of windpower projects in the Flint Hills², particularly in the relatively unfragmented areas of the landscape³. In addition, care should be given to avoid damage to unfragmented landscapes and high quality remnants in the Sandsage, Mixed Grass, and Shortgrass prairies in central and western Kansas. When feasible, wind energy development should be located on already altered landscapes, such as extensively cultivated land and/or areas already developed. An undeveloped buffer adjacent to intact prairies is also desirable; and,
- g. Plan for efficient use of the land, consolidate necessary infrastructure requirements wherever possible, and carefully evaluate current transmission and market access.

2. *Noise Management Guidelines*

- a. When evaluating prospective sites, consider whether there are adequate setbacks from residential areas and rural homes, especially where the residential unit is in a relatively less windy or quieter location than the turbines. Recognize that residents who support the wind system may some day be replaced by others who will object to the noise; and,
- b. Where acoustic levels are critical because of nearby residences and/or natural surroundings, investigate the possibility of using sound reduction technology on appropriate turbines.

3. *Natural and Biological Resources Guidelines*

- a. Consider the biological setting early in the project evaluation and planning process. Use biological and environmental experts to conduct preliminary reconnaissance of the prospective site area. Communication with wildlife agency and university personnel is essential. If a site has a large potential for biological and/or environmental conflicts, it may not be worth the time and cost of conducting detailed wind resource evaluation work;
- b. Contact appropriate resource management agencies early in the planning process to determine if there are any resources of special concern in the area under consideration;
- c. Involve local environmental/natural resources groups as soon as practicable. They will be less likely to react negatively to a project if they understand its requirements and see their concerns are being seriously addressed;
- d. A key tool for avoiding unnecessary negative ecological impacts of wind power development is planning. Landscape-level examinations of key wildlife habitats,

² Tallgrass Prairie is the most altered ecosystem in North American in terms of the number of acres lost, with only 3 to 5% remaining in any form. The Flint Hills landscape is the last expanse of tallgrass prairie, and contains approximately two-thirds of all the remaining tallgrass prairie in North America.

³ See Appendix A under Web links.

migration corridors, staging/concentration areas, and breeding and brood-rearing areas should be used to develop general siting strategies;

- e. Legally protected wildlife, such as threatened and endangered species, present or potentially present at a site should receive careful review. Recognize that other seriously declining or vulnerable species that have no legal protection may also be present. Research wildlife issues at each site and attempt to understand how a wind energy project might impact individual species of concern;
- f. Sites where native vegetation is scarce or absent will have substantially fewer biological resource concerns. Where possible, avoid large, intact areas of native vegetation;
- g. Power lines should be buried when feasible. In regions where grassland burning is practiced, infrastructure should be able to withstand periodic burning of vegetation. Roads and fences should be minimized;
- h. No perches should be allowed on the nacelles of turbines. Towers should not utilize lattice-type construction or other designs that provide perches for avian predators. Potential adverse affects of turbine warning lights on migrating birds should be addressed;
- i. Turbines should be situated in a way that does not interfere with important wildlife movement corridors and staging areas;
- j. When it is impossible to avoid significant ecological damage in the siting of a wind power facility, mitigation for habitat loss should be considered. Appropriate actions may include ecological restoration, long-term management agreements, and conservation easements to enhance or protect sites with similar or higher ecological quality to that of the developed site; and,
- k. Consider potential cumulative regional impacts from multiple wind energy projects when making environmental assessments and mitigation decisions. Failure to consider multiple projects will prevent analysis at a scale that could potentially yield a much different picture.

4. *Visual Impact Guidelines*

- a. The visual impact of windpower projects⁴ is an important consideration in siting deliberations. The impact on the quality of the surrounding landscape and viewsheds, especially in areas with high aesthetic qualities and where neighbors' property may be impacted by the siting, should be evaluated fully. Accurate visual representations of potential projects (including visual simulations and viewshed analyses) are useful ways of providing information to landowners, the general public and other key stakeholders regarding the visual impact of windpower projects;
- b. Listen to the community(ies) and stakeholders in all project phases;

⁴ The visual impact of wind turbines is subjective, in that there are a wide variety of views on the aesthetics of wind turbines, and those views are influenced by the site and surrounding landscape, land use practices, public attitudes, and individual perspectives.

- c. Consider adapting the project design to minimize visual exposure from visually sensitive areas;
- d. Plan the project to minimize the need for developed roads or cut-and-fill (refer to 5d);
- e. Consider the possibilities and benefits of using road-less project designs or designs that rely on existing roads; and,
- f. Identify designated scenic byways⁵ and popular vistas, and avoid sites that are readily visible from those points.

5. *Soil Erosion and Water Quality*

- a. Wherever possible, avoid sites that require construction activities on steep slopes;
- b. In considering the appropriate erosion control measures required for a specific site, be aware that although some measures may require greater expense initially, significant savings will occur over the life of the project in reduced maintenance and replacement costs. A well-developed erosion and sediment control plan may also reduce regulatory delays in approving and monitoring the project;
- c. Ideally, construction and maintenance should be done when the ground is frozen or when soils are dry and the native vegetation is dormant;
- d. Improved roads and construction staging areas should be kept to a minimum, and care should be given to avoid sensitive habitats;
- e. Ongoing operation and maintenance activities should be carried out as practical by use of light conveyances to minimize habitat disturbance and the need for improved roads; and,
- f. Native vegetation of local ecotypes should be used when reseeding disturbed areas. Wildlife and plant composition should be considered in determining the frequency and timing of mowing near turbines.

6. *Safety Guidelines*

- a. Include the need for safety setbacks when evaluating specific parcels for development. Sufficient spacing from public access ways, and particularly from residential areas and structures, can mitigate many siting issues.

7. *Cultural, Archaeological and Paleontological Guidelines*

- a. Avoid selecting sites with potentially sensitive cultural or historical resources whenever possible, and always involve stakeholders early on;
- b. Consult with the Kansas State Historical Society and qualified professional specialists familiar with cultural and fossil resources in the project development area;

⁵ Kansas scenic byways are designated by the State through a grassroots nomination/evaluation process that focuses on the high visual aesthetic qualities of the route. Windpower projects should be sited to minimize adverse impacts on the visual quality of scenic byways as well as on the visual experiences of other popular vistas and scenic areas. In general, priority should be given to windpower projects where the natural landscape has already experienced significant change from human activity.

- c. Some sensitive resources and sites may be confidential to Native Americans. Respect this confidentiality and plan to work closely with tribal representatives to avoid disruption of these resources;
- d. Design project site layouts to avoid sensitive resources if possible;
- e. Provide for monitoring and mitigation for protection of sensitive resources during construction and operation of the project; and,
- f. Allow adequate time in the project schedule for data and specimen recovery, mapping analysis and reporting.

8. *Socioeconomic, Public Service and Infrastructure Guidelines*

- a. Consult with the local agencies and service districts to determine if and how the project's requirements may affect community services, costs and infrastructure;
- b. If possible, plan the project's operation and construction to avoid or minimize potential impacts on community services and infrastructure;
- c. Recognize that the Kansas personal property tax exemption available to renewable energy projects affects the local community. Developers are encouraged to incorporate community and goodwill initiatives into the project's economic plan and work to be good neighbors;
- d. Do not exploit the fact that some districts or counties do not yet have an established zoning permitting process applicable to wind energy projects. Work with the appropriate local officials to establish reasonable parameters and make the process as transparent and informative to the public as practicable;
- e. Provide information related to possible future project expansions. Affected stakeholders should recognize that developers may not have precise information about future expansions, and developers should recognize that stakeholder issues and concerns may be dependant on project scale, and that expanded projects may involve impacts not specifically addressed during the initial project;
- f. Anticipate and make provisions for future site decommissioning and restoration;
- g. Utilize local contractors and providers for services, supplies, and equipment as much as possible during construction and operation of the project; and,
- h. Recognize that the local community may not have a specific need for the electricity generated by the proposed project. There should be substantive public benefits beyond the greater good of hosting a renewable energy facility.

9. *Public Interaction Guidelines*

- a. Prepare and implement a public outreach program on the benefits and trade-offs involved in wind generation; and,
- b. Provide access or direction to objective background resources that will allow the interested parties to make fully informed decisions. Decision making by developers, landowners, elected officials and the general public will be enhanced when accurate and comprehensive information is shared and ample opportunity for two-way

communication is available. Public involvement through meetings and public forums should be incorporated into the siting process.



KANSAS

DEPARTMENT OF WILDLIFE AND PARKS

KATHLEEN SEBELIUS, GOVERNOR

Wind Power and Wildlife Issues in Kansas: the Position of the Kansas Department of Wildlife and Parks

Wind power is the fastest growing form of renewable or “green” energy in the United States, and Kansas has been ranked third in the nation for its potential wind resources. Power companies have adopted renewable energy portfolios as a result of federal government mandates and increased consumer demand for renewable energy. Federal and state tax incentives, along with advances in technology, have improved the competitive position of wind power relative to conventional energy production. These factors have created a highly competitive environment in Kansas for the location and development of commercial wind power facilities.

The Kansas Department of Wildlife and Parks (KDWP) is supportive of the concept of renewable energy. Wind energy appears to offer a potential source of electricity that is nearly emission free and requires minimal use of other resources, such as water and fossil fuels, compared to traditional forms of electrical generation. While recognizing the benefits of a renewable energy supply, KDWP also recognizes that energy conservation and efficiency are the most environmentally benign means of freeing up energy availability for the future.

Superficially, wind energy appears less likely to generate some of the more obvious environmental consequences associated with electrical generation from fossil fuel combustion. On this basis alone, many conservation and environmental organizations have supported its expansion. Early concerns for wildlife relative to wind energy centered mainly on bird mortality from collisions with wind turbines and power lines. Research indicates that bird collisions are not as significant of a mortality factor as originally anticipated (Johnson et al., 2002). The risk for collisions has been reduced through changes in turbine design, including elimination of lattice towers, and burying power lines within the wind facility. Recent research indicates that bats might be at greater risk from flying into wind turbines than birds, especially when turbine arrays are sited along bat migration corridors. The trend for larger turbines might pose an increased collision risk to night-migrating birds, particularly where placed on high ridges.

Siting of wind power facilities on native intact prairie appears likely to cause avoidance or complete abandonment of otherwise suitable habitats by some grassland birds. The actual footprint or area of physical disturbance affected by the construction of turbines, roads, transmission line connections, and other infrastructure of wind facilities is small compared to overall project areas. However, behavioral avoidance of these facilities by sensitive grassland birds has the potential to expand negative effects over the entire project (generally thousands of acres). Research at a Minnesota wind facility found nesting densities of grassland birds four

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times greater in grasslands that were 180 meters from wind turbines compared to grasslands within 80 meters of turbines (Leddy et al., 1999). Studies in Europe have also documented bird avoidance of wind power facilities (Winkelman, 1990; Pedersen et al., 1991). Though not specifically associated with a wind facility, a six-year study in Southwest Kansas showed that Lesser Prairie-chicken hens seldom nest or raise their broods within a mean buffer of 1,191 feet from electrical transmission lines, 581 feet from oil and gas wellheads, 4,114 feet from buildings, 1,007 feet from center pivot irrigation systems, and 2,579 feet from either side of improved roads (Pitman et al., in review). The behavioral response of the Greater Prairie-chicken is similar to that of the Lesser Prairie-chicken, and it is predicted that nesting and brood-rearing hens of both species will avoid large wind turbines (1.5 MW models; 350 feet tall) by at least a one-mile radius (Robel et al., 2004). In its Briefing Paper regarding prairie grouse leks and wind turbines, the U.S. Fish and Wildlife Service recommends a five-mile buffer between occupied prairie grouse leks and wind power facilities (Manville, 2004).

Many native prairie regions in Kansas are known to have high wind power potential. The juxtaposition of this wind potential and Kansas' remaining intact prairie habitat is a source of major concern, particularly considering the declining status of many grassland birds (Knopf, 1994). Numerous resident and migratory wildlife species depend upon native prairie habitats. These habitats are used by prairie species for many phases of their life cycles including courtship, nesting, brood-rearing, foraging, roosting, loafing, winter cover, and migratory corridors.

In addition to forcing habitat abandonment, commercial wind power projects could effectively fragment native prairie habitats. Declining populations of Lesser Prairie-chickens have been shown to be strongly affected by broad spatial changes to landscape structure (Woodward et al., 2001; Fuhlendorf et al., 2002). Large numbers of wind turbine arrays might act as dispersal barriers thus affecting some species at a landscape scale. Also, little is known about the potential of cumulative effects to other species of wildlife that inhabit native prairie habitats including small mammals, fish, amphibians, and reptiles. These species are important parts of the prairie and disruptions to their behaviors and habitats could affect overall function and health of this ecosystem.

It is the duty of the KDWP to protect the wildlife resources of the state for all Kansans and, consequently, the agency considers it critically important to protect the integrity of remaining intact prairie habitats in Kansas. Thus, it is the position of the KDWP:

- (1) That wind power facilities should be sited on previously altered landscapes, such as areas of extensive cultivation or urban and industrial development, and away from extensive areas of intact native prairie, important wildlife migration corridors, and migration staging areas.
- (2) To recommend adherence to the siting guidelines for wind power projects (*Siting Guidelines for Windpower Projects in Kansas*) produced by the Kansas

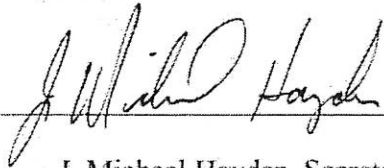
Renewable Energy Working Group

(<http://www.krewg.org/reports/KREWGSitingGuidelines.pdf>)

- (3) To support the study of and establishment of standards for adequate inventory of plant and animal communities before wind development sites are selected, during construction, and after development is completed (Manes et al., in review). The resultant improvement in available knowledge of wind power and wildlife interactions obtained through research and monitoring should be used to periodically update guidelines regarding the siting of wind power facilities.
- (4) That mitigation is appropriate only if significant ecological harm from wind power facilities cannot be adequately addressed through proper siting.
- (5) To support the establishment of processes to ensure a comprehensive and consistent method in addressing proposed wind power developments.
- (6) To advocate the direct coupling of energy conservation and efficiency programs with any new measures aimed at increasing energy supply, whether renewable or conventional.

Currently, wind power projects are statutorily subject to KDWP regulatory purview if they are publicly funded, state or federally assisted, or require a permit from another state or federal government agency to protect species listed as threatened or endangered as designated by the Kansas Nongame and Endangered Species Conservation Act of 1975. Kansas statutes and regulations require the issuance of special action permits from KDWP for activities that affect listed species before such activities may proceed. Questions regarding potential permitting or formal review requests should be forwarded the Environmental Services Section at the KDWP Operations Office in Pratt.

Approved: _____



J. Michael Hayden, Secretary

Date: _____

12/2/04

Literature Cited

- Fuhlendorf, S. D., A. J. Woodward, D. M. Leslie Jr., and J. Shackford. 2002. Multi-scale effects of habitat loss and fragmentation on lesser prairie-chicken populations. *Landscape Ecology*, 17: 601-615.
- Johnson, G. D., W. P. Erickson, M. D. Strickland, M. F. Shepherd, D. A. Shepherd, and S. A. Sarappo. 2002. Collision mortality of local and migrant birds at a large-scale wind-power development on Buffalo Ridge Minnesota. *Wildlife Society Bulletin*, 30: 879-887.
- Knopf, F. L. 1994. Avian assemblages on altered grasslands. Pages 247-257 in J. R. Jehl, Jr. and N. K. Johnson, editors. *Studies in Avian Biology*, No. 15, A Century of Avifaunal Change in Western North America. Published by the Cooper Ornithological Society.
- Leddy, K. L., K. F. Higgins, and D. E. Naugle. 1999. Effects of wind turbines on upland nesting birds in conservation reserve program grasslands. *Wilson Bulletin*, 111: 100-104.
- Manes, R., S. A. Harmon, B. K. Obermeyer, and R. D. Applegate. In Review. Wind energy & wildlife in the Great Plains: identifications of concerns and ways to alleviate them. *Wildlife Society Bulletin*.
- Manville, A. M., II. 2004. Prairie grouse leks and wind turbines: U.S. Fish and Wildlife Service justification for a 5-mile buffer from leks; additional grassland songbird recommendations. Division of Migratory Bird Management, USFWS, Arlington, VA, peer-reviewed briefing paper. 17 pp.
- Pedersen, M. B. and E. Poulsen. 1991. Avian responses to the implementation of the Tjaereborg Wind Turbine at the Danish Wadden Sea. *Danish Wildtundersogelser*, 47: 1-44.
- Pitman, J. C., C. A. Hagen, R. J. Robel, T. M. Loughin, and R. D. Applegate. In Review. Location and success of Lesser Prairie-chicken nests in relation to vegetation and human disturbance. *Journal of Wildlife Management*.
- Robel, R. J., J. A. Harrington, Jr., C. A. Hagen, J. C. Pitman, and R. R. Reker. 2004. Effect of energy development and human activity of the use of sand sagebrush habitat by Lesser Prairie-chickens in southwest Kansas. *Transactions of the North American Wildlife and Natural Resources Conference* 68: in press.
- Winkelman, E. 1990. Impact of the wind park near Urk, Netherlands, on birds: bird collision victims and disturbance of wintering fowl. *International Ornithological Congress*, 20: 402-403.
- Woodward, A. J., S. D. Fuhlendorf, D. M. Leslie Jr., and J. Shackford. 2001. Influence of landscape composition and change on lesser prairie-chicken (*Tympanuchus pallidicinctus*) populations. *American Midland Naturalist*, 145: 261-274.



ASSESSMENT OF THE
**Economic and
Tourism Impacts**

OF SITING WIND ENERGY DEVELOPMENTS
IN KANSAS NATURAL AREAS



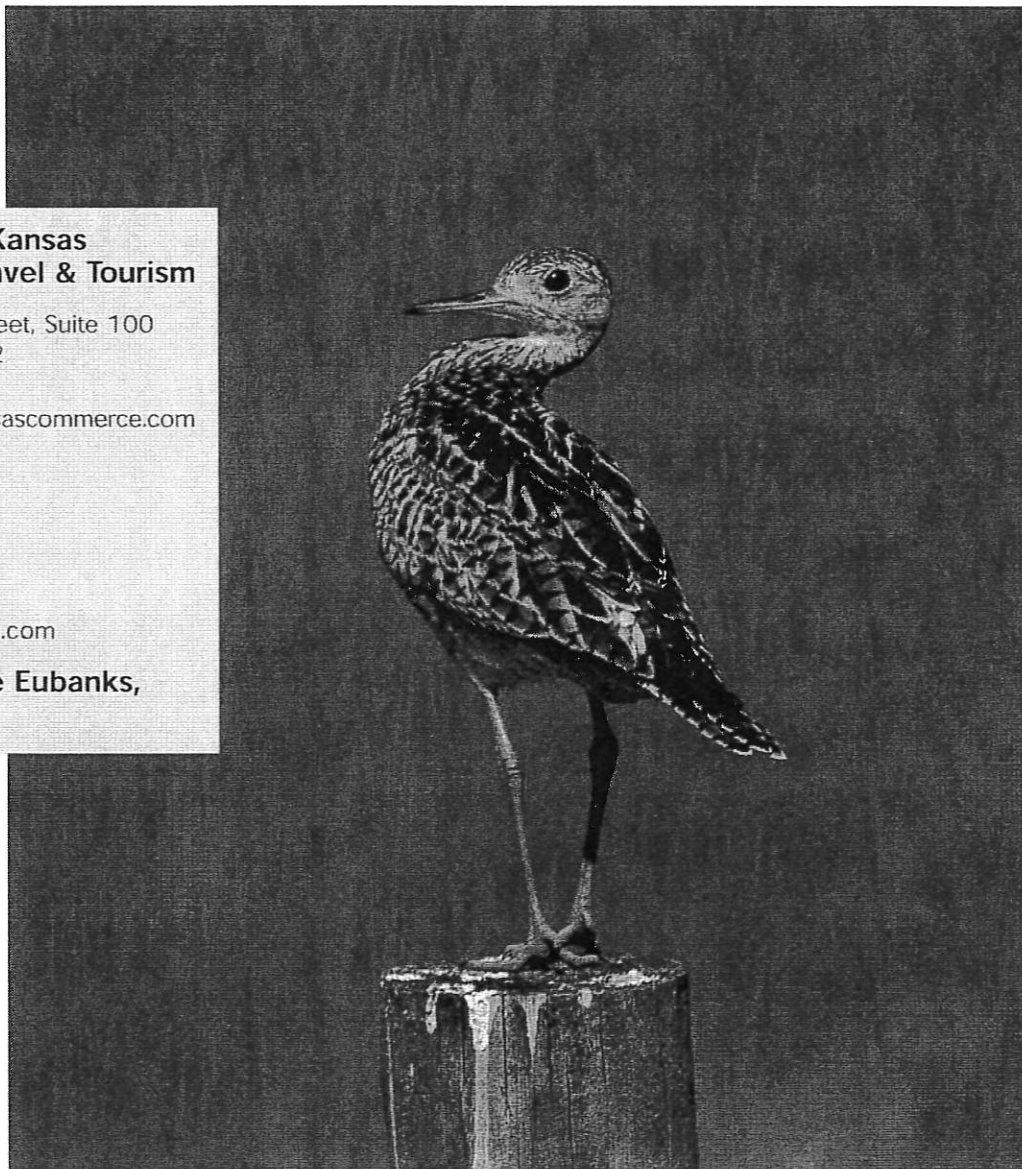
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I. Executive Summary

Tallgrass prairie once covered more than 140 million acres of the United States, from Indiana to Kansas and from Canada to Texas. Nearly all of it has been plowed under for agriculture but an ancient past survives in the irreplaceable Flint Hills tallgrass. The Flint Hills region, which runs north and south through east-central Kansas, is one of the few large areas of native prairie grassland left in the United States. Away from the roads and buildings, the Flint Hills region looks much as it did 10,000 years ago.

Today, the tallgrass prairie covers less than four percent of its original area. This makes it one of the rarest and most endangered ecosystems in the world, and one that is profoundly affected by a variety of potential ecological changes. Eighty percent of the foliage is grasses, and it is home to over 400 species of plants, nearly 150 species of birds, 39 species of reptiles and amphibians, and 31 species of mammals.

During recent years, the State of Kansas and its State Energy Resources Coordinating Council (SERCC) has grappled with the question of wind energy development in Kansas and, more specifically, in the Flint Hills region. A study released in 2002 ranked Kansas as the number one state in potential wind resources when existing transmission availability was factored in. Governor Kathleen Sebelius believes that, "The development of our state's wind energy potential could play a role in helping to turn our state back into an energy exporter, enhance economic development and promote future energy security and independence." A report called *Siting Guidelines for Wind Projects in Kansas* was approved in February 2003 by the Executive Committee of the Kansas Renewable Energy Working Group.

In December 2003, the Governor called for the appointment of a special task force to study and make recommendations relating to wind energy projects in the Flint Hills and Tallgrass Prairie Regions of the state. The Task Force was charged with soliciting information from experts as well as the general public to find an appropriate balance between the promotion of wind energy potential and the preservation of natural ecosystems and places of scenic beauty.

Emporia Rep. Peggy Long-Mast introduced a bill in January 2004 to prevent wind farm development in a 15-county area from Arkansas City to Manhattan including the Flint Hills Region. According to local newspaper accounts, landowners and environmentalists have been battling wind energy developers over placing wind farms in the Flint Hills. However, Rep. Carl Holmes, chairman of the House Utilities Committee, said his committee was unlikely to address any wind-energy related legislation this session. He prefers to wait until the Governor's Task Force finishes its work in May. Another bill, introduced by Rep. Bill Mason, R-El Dorado, would remove the property tax exemption for corporations that want to develop wind farms. Current law allows for a permanent property tax exemption as long as the land and other property are used to generate electricity. Mason proposes allowing county commissioners to vote to allow the property tax exemption for up to 10 years, similar to other tax exemption provisions in state law.

Kansas' wind power on standby: Turbines in Flint Hills await state study

By John A. Dvorak

Kansas has been poised for a wind-energy boom, with its advocates predicting construction of hundreds of turbines around the state generating environmentally friendly electricity. One project alone, the Munkers Creek Windfarm slated for the Flint Hills, may cost \$100 million or more and give farmers and ranchers badly needed income. The blades of the windmills, however, are a long way from turning as the State evaluates the impact of turbines in this historic prairie land. According to Kansas' Audubon executive director Ron Klataske, everyone loses if turbines are improperly sited in sensitive areas like the Flint Hills.

The Kansas Legislature has already discussed three bills that would sidetrack the wind-energy industry. Two organizations, both with ranchers among the membership, have formed to protect the Flint Hills from wind plants. Gov. Kathleen Sebelius recently appointed a task force to study wind farms in Flint Hills and all parties are awaiting the outcome.

A single major wind farm operates in Kansas, southwest of Dodge City, in a farming area where landowners raised few objections and another is planned for east of Dodge City. Although wind energy has created less uproar in western Kansas, the Flint Hills region remains attractive to developers due to existing transmission lines. Jennifer States, managing director of JW Prairie Windpower and developer of Munkers Creek Windfarm near Alta Vista, Kansas, says the project won't be in the most sensitive and pristine sections of the Flint Hills.

Part of the project, which may contain 75 or more turbines, would be on land belonging to Roger Zimmerman, who grazes cattle and grows crops just southeast of Alta Vista. Zimmerman visited a wind farm in Iowa before agreeing to the use of his property and is very excited about the project. He believes that people are afraid of what they don't know.

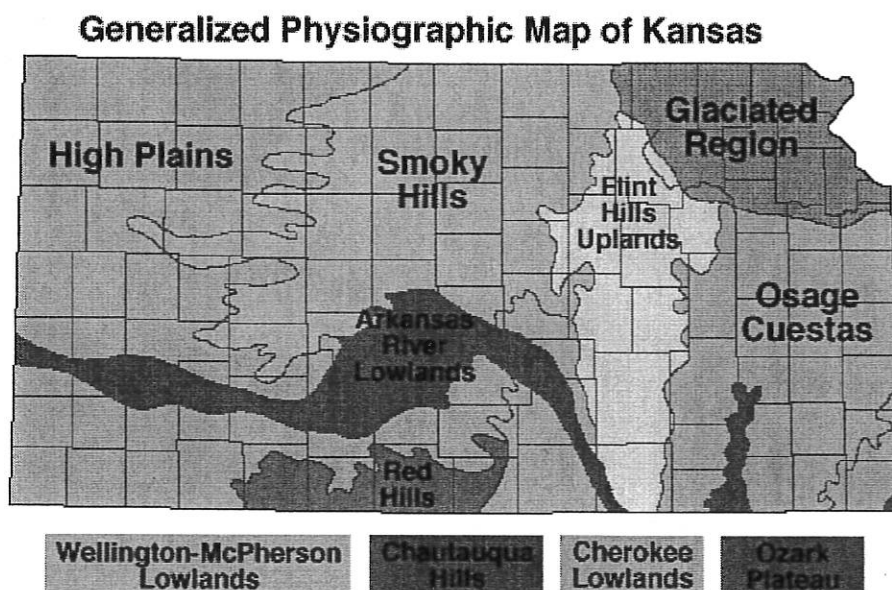
Source: Excerpt from The Kansas City Star, February 4, 2004

FERMATA, an international nature tourism consulting group, was engaged to evaluate the economic importance of the Tallgrass Prairie Region as a tourism attraction and to report on its assessment to the state tourism department for use in discussions of the Governor's Task Force. FERMATA's approach is to identify suitable zones for wind energy development in Kansas and at the same time protect the world-class Tallgrass Prairie as a tourism attraction given that area's greater economic potential.

II. Impacts of Wind Energy Development upon the Existing Tourism Industry

Flint Hills is an 8-county region that runs north and south through east-central Kansas. See map. The Region is home to one of the largest areas of native prairie grassland in the United States, the Tallgrass Prairie National Preserve, and to a state scenic byway and a candidate state scenic byway.

Rose Bacon who raises cattle southwest of Council Grove is an opponent of the project and believes that Kansas has several options. Counties could use zoning to restrict wind turbines; the State could add a tax for plants built in environmentally critical areas; or specific areas could be off limits to the turbines. Some counties already have zoning; some do not.



Source: Kansas Geological Survey (on-line: <http://www.kgs.ukans.edu/Physio/physio.html>).

Current Situation- Natural Resources

The nature, culture, and historical resources of Kansas are reflected in its public lands. Private lands are also critically important. The Tallgrass Prairie Region of Kansas is one of the only remaining intact ecosystems of its type in the US. Of the 400,000 square miles of tallgrass prairie that once covered the North American Continent, less than one percent remains, primarily in the Flint Hills. (See map of extent of the current Tallgrass Prairie Ecosystem in Appendix A.)

Tallgrass Prairie National Preserve

The Tallgrass Prairie National Preserve is 10,894 acres of rolling grassland located in northern Chase County, in the heart of the Flint Hills region. Two major creeks (Fox Creek and Palmer Creek), numerous springs, seeps, and stock ponds dot the landscape. Prominent buildings and structures link the site to its ranching history. A unique collection of cultural and natural features, the Tallgrass Prairie tells the story of human interaction with the environment from pre-contact times to the present. On November 12, 1996, legislation was passed creating Tallgrass Prairie

**Excerpt from General Management Plan EIS
Tallgrass Prairie National Preserve**

Two fundamental ideas form the basis for the preferred alternative: (1) Tallgrass Prairie National Preserve has been established as a unit of the National Park System to preserve, protect, and interpret for the public a remnant of the once vast tallgrass prairie ecosystem, and (2) this remnant exists today because of a complex history of interaction between people and the land.

Decisions regarding natural and cultural resources will be guided by information generated through research and by ongoing inventory and monitoring programs.

Riparian areas will be protected from erosion and further loss of vegetation. Some bottomland prairie will be restored. Springs, seeps, and associated streams will receive additional protection if they are found to contain unique or rare native plant or animal species.

Some agricultural crops will be planted to create a historic scene, but no alien, non-indigenous species will be introduced into riparian areas or areas of native prairie. Existing exotic species that could impact preserve resources in a negative manner, or could spread rapidly, will be removed or controlled where practical.

Significant archeological and ethnological sites will be preserved and protected, and public access to these sites will be controlled. Specific resources may be made accessible to culturally affiliated tribes or traditionally associated groups by request. Any identified American Indian sacred sites will be protected, with access for sacred ceremonies allowed to appropriate tribes.

The ranching character of the area encompassing the historic ranch headquarters and the Lower Fox Creek School will be retained, with the buildings, associated structures, and landscape features restored, rehabilitated, and/or preserved.

The NPS will actively seek partnerships and opportunities for cooperation with local communities, government agencies, nonprofit organizations, and other entities that may have an interest in helping to achieve the preserve's desired futures.

National Preserve in the Flint Hills region of Kansas. A new superintendent was assigned to the site in February 1997 and a General Management Plan (GMP) was completed in September 2000 (see sidebar).

Tallgrass Prairie National Preserve is a new kind of national park. The preserve is 10,894 acres. Until recently, most of that land remained under the ownership of the National Park Trust, which purchased the land in 1994. The 1996 establishment legislation calls for the entire acreage to be managed cooperatively by the National Park Service and the National Park Trust. On September 20, 2002, approximately 32 acres were donated to the National Park Service by the National Park Trust. This area includes the 1881 historic ranch house, limestone barn and outbuildings, and one-room schoolhouse. This brings the acreage owned by the National Park Service to 212 acres. The Kansas Park Trust (a recently incorporated not-for-profit) has a letter of intent with the National Park Trust to purchase the Tallgrass Prairie National Preserve so that the Preserve will be owned by a Kansas-based organization. Presently, the Kansas Park Trust is raising funds to pay-off the mortgage and is negotiating with the grazing leaseholder to allow significantly more public access to the Preserve.

The Tallgrass Prairie National Preserve is a public/private partnership. Its mission is to preserve and enhance a nationally significant remnant of the tallgrass prairie ecosystem and the processes that sustain it; preserve and interpret the cultural resources of the preserve and the heritage associated with the ranch property; and offer opportunities for education, inspiration, and enjoyment through public access to its geological, ecological, scenic, and historical features.

Included in the GMP are about a dozen "desired futures," or conditions that will allow

*Assessment of the Economic and Tourism Impacts
of Siting Wind Energy Developments in Kansas Natural Areas*

the preserve to achieve its purpose. Among these is an open and unobstructed view:

“The vistas and views have been repeatedly identified by the public as some of the Preserve’s most important resources. The relationship of earth and sky, the feeling of vastness, and the openness of the landscape all contribute to a ‘sense of place’. Existing developments should be managed to enhance views (i.e. power lines buried), and future developments should enhance and not detract from this important resource.”

Current Situation – Infrastructure

According to a Young Nichols Gilstrap report, *Tourism Strategy for Kansas* (1998), Kansas presently lacks powerful independent attractions. Research of attractions visitation by out-of-state travelers showed that in 1996 no attraction generated more than 100,000 visitors. In fact several unpaid attractions, Fort Scott (28,076 visitors) and Louisburg Cider Mill (40,000 visitors), that would be similar to the attractions of the Flint Hills/Tall Grass Prairie Region, had 40,000 or less non-resident visitors.

Tallgrass Prairie National Preserve

The Preserve currently has two trails. The Southwind Nature Trail is a 1.5-mile self-guided hiking trail that starts in front of the Spring Hill Ranch house and winds through the lower prairie and rolling hills to expansive vistas of unsurpassed beauty. The two-loop Bottomland Nature Trail opened in October 2003. It has an introductory kiosk with five porcelain enamel wayside exhibits explaining the natural and cultural history that makes up the trail area. There are benches strategically placed for visitors to stop and enjoy the peace and beauty and is the site of a future bottomland prairie restoration area. Visitors may also take prairie bus tours and enjoy the Living History programs.

The Preserve GMP identified visitor services and enhancements relative to interpretation, education, and the overall experience. The GMP states that visitors should have access to ideas, concepts, and stories that are central to the Preserve's significance and purpose. These themes provide the direction for planners and designers of various media such as exhibits, publications, audiovisual presentations, guided tours, etc. Visitor experience goals are the basis for activities that include developing management areas, designing facilities, and developing programs and partnerships.

Flint Hills Scenic Byway

The Flint Hills Scenic Byway was designated a Kansas Scenic Byway on June 14, 1995 by the Kansas Secretary of Transportation. The Flint Hills Scenic Byway stretches 47.2 miles across the Flint Hills of Kansas on K-177 between Council Grove and Cassoday. It is a beautiful drive year-round showing off the panoramic vistas of the tallgrass prairie. Historic sites abound in Council Grove from the Kaw Mission and the Last Chance Store. The Byway passes the Tallgrass Prairie National Preserve and follows the roadway through Strong City and Cottonwood Falls, site of the Chase County Courthouse in operation since 1873. South of Cottonwood Falls, the Flint Hills Scenic Byway travels above the hills for more panoramic views of the ranches in the area then dips down into the creekside to follow magnificent stonewalls around farmsteads still in operation.

The Flint Hills Scenic Byway takes the traveler deep into the heart of the Flint Hills where the sky expands and the land begins to rise and fall like waves on a sea of grass. Much of the land in an area 30-40 miles wide along the byway has remained unchanged for thousands of years. The Plains Indians, such as the Kaw and Osage, made the prairie their home using pieces of chert found here for their tools and weapons. Early settlers crossed over the land, finding it too steep and rocky to farm. The Byway is a journey into the history of the American West. (Source: Flint Hills Scenic Byway Corridor Management Plan.)

**Goals for the Corridor Management Plan
(Excerpt from CMP, March 1999)**

Preserve intrinsic resources of the byway

- Conserve intrinsic resources of the scenic byway in a sustainable balance with economic development and tourism
- Develop a sense of joint stewardship by all users (visitors, property owners, and managers)

Promote the byway and its resources

- Promote economic development and tourism
- Provide for marketing, promotion, and interpretation of the unique attributes and opportunities
- Devise plan to promote cooperative ventures between the communities, commercial establishments, and organizations of the corridor
- Keep abreast of other organizations' plans and activities that may impact the Flint Hills Scenic Byway activities

Enhance the byway

- Provide a safe roadway environment working with KDOT, local governmental transportation agencies and others
- Resurrect trolley concept between Strong City and Cottonwood Falls
- Inform visitors about range burning, fog, cattle drive, wildlife, special events, etc. via radio broadcasts, temporary signs, etc.
- Develop an access management plan in cooperation with the Tallgrass Prairie National Preserve
- Encourage ranchers to contact local law enforcement (as part of burn plan for managed burns)
- Inform/promote/supervise tours
- Develop overlook at Schrupf Hill

Enhance the scenic experiences of all users of the corridor

- Develop low-watt radio broadcast plan
- Develop low-watt radio broadcast system
- Provide input for the locations of information kiosks and information centers
- Develop interpretive panels that conform to the natural scenery
- Shield/screen/relocate mixing strips
- Coordinate with the Tallgrass Prairie National Preserve and other resources along the byway about interpretive descriptions and experiences
- Increase accessibility to recreation areas and associated facilities
- Coordinate timing of events and activities, if possible
- Devise a plan to be sure tourist facilities (restrooms, visitor centers, etc.) are available

Develop funding support, partnerships, and cooperative ventures to assure the long term success of the byway

- Develop proposed budgets for each activity
- Pursue federal, state, and local funding possibilities both public and private to help offset the expenses

An economic impact study that looked at the effects on the local communities of State Scenic Byway designation was completed in 2001 for the Kansas Scenic Byways Program by staff from the Kansas Scenic Byways Clearinghouse. A Corridor Management Plan (CMP) was prepared in 1999 and established five goals for the Byway (see sidebar). It also identified a substantial number of key resources, including scenic, historic, cultural, natural, recreational, archeological, and national register listings as well as tourist amenities such as dining, lodging, picnic areas, camping, and visitor facilities. (See Appendix B.)

National Scenic Byway designation was considered but was not pursued in the past. Local people have expressed concern about the possibility of private property infringement that they think could take place as a result of National Scenic Byway designation. Now, people are becoming more receptive to national designation. The next time that an application for federal recognition may be made is 2005.

Native Stone State Scenic Byway

A proposed Native Stone State Scenic Byway in Shawnee and Wabunsee Counties is under study presently and the second draft of the Corridor Management Plan is being prepared. The proposed route is 64 miles long and begins at exit 353 on I-70, just west of Topeka; then follows Auburn Road (K-4) south through Dover and Eskridge where the route becomes (K-4/K-99) and proceeds west. At the T-intersection where K-4 and K-99 split, the byway goes both north and southwest. The northern route ends at exit 328 at I-70 and the southwest terminus is at the intersection of K-4 and K-177. The proposed Alta Vista wind development site would be visible from this route.

Council Grove Lake and City Reservoir

In addition to historic and cultural activities, Morris County is the site of twin lakes where recreational opportunities abound. The twin lakes at Council Grove include the City Reservoir and the 3,000-acre federal Council Grove Lake. Visitors can enjoy many outdoor activities including fishing, camping, swimming, and boating. Cabins and second homes also dot the shoreline, providing peace and refuge for those wishing an escape.

Current Situation – Tourism in Kansas

According to a Young Nichols Gilstrap report, *Tourism Strategy for Kansas* (1998), most tourism in Kansas is from residents of the state or business travelers. Non-resident leisure travel amounts to only about 8.1 million people annually. Of these, about 50% were pass-through travelers. 1.9 million of these leisure travelers were in Kansas to visit family and friends and only 500,000 visitors chose Kansas as a vacation destination. The average length of stay for the leisure travelers reported in this study was only 1.93 days compared to the national average of 2.17 days.

Tourism in the Flint Hills/Tallgrass Prairie Region

The study of the economic impact of State Scenic Byway designation provides the following information on the demographics and motivations, of visitors to the region (n=204.) Since this Byway transects the Flint Hills, it is assumed to be an accurate reflection of the current visitor to the region.

In general, visitors were married (72%), primarily between the ages of 25-44 (45%), employed (70%) and had completed some college (77%). Most traveled by auto (>75%) in groups of varied sizes and were from within a 100-mile radius of the Byway (Kansas and neighboring states). It is estimated from the survey that approximately 900 visitors stopped along the Byway during the two weekends in August in which the survey was conducted.

Nearly one-third of visitors interviewed were on vacation and about 20% were visiting family or friends. These are similar demographics to those found for the entire state. Motivations for the trip to the Flint Hills/Tall Grass Prairie Region varied from those for the state as a whole, presumably because of the unique attractions and offerings found in the region. These motivations included viewing scenery, doing something as a family, escaping the city, getting exercise, experiencing nature, and using the most direct travel route. Among the most popular activities were visiting historic sites, pleasure driving, visiting museums, taking photos, viewing wildlife, and shopping. More than half (60%) were staying only for the day while 15% were staying overnight and 20% were there for two or more nights.

According to National Park Service (NPS) data, in 2002, 17,000 people visited the Preserve. A recent visitor study at the Tallgrass Prairie National Preserve conducted by NPS staff indicated that August visitation represented 11% of the annual visitation; and weekend visitor numbers were twice those of weekday. Using these findings and the survey data, the Byway economic impact study estimated 1,025 visitor groups with an average size of 4.4 people visited the region during August 1998. This is further extrapolated to 41,000 individuals per year who tour the Byway.

Economic Impacts of Tourism

According to Wilkerson (2003), “Given its historical performance as a luxury good during expansions and a necessity during recessions, travel and tourism’s future economic prospects look quite bright.”

Traditional economic impacts from tourism are:

- **Direct** — visitor spending that directly supports the jobs and income of people and firms that deal directly with the visitor
- **Indirect** — changes in sales, income, or jobs in regional sectors that supply goods and services to the recreation/tourism industries.
- **Induced** — increased sales within the region from the household spending of the income earned in the tourism and supporting sectors.

Based upon the Byway economic impact study, it is conservatively estimated that each visitor group to the Flint Hills Tall Grass Prairie Region spent approximately \$50/day/person on their trip – somewhat below the statewide visitor expenditure of \$60/day/person (1994 dollars) and well below the national average of \$78/day/person. This may be a reflection of the length of stay, the point at which the survey was administered, or the limited opportunities to make purchases in the region. Using the 1994 statewide travel expenditure figure of \$60/day/person and an annual regional visitation estimate of 41,000 people per year, the current direct expenditures by visitors to the region can be estimated at about \$2.8 million (adjusted for inflation over ten years) annually.

From Impact of Travel On State Economies 2001 (TIA 2003)

In 2001, domestic travelers spent about \$3.5 billion in Kansas, a 1.8 percent decrease over 2000. Spending on auto transportation led all other expenditure categories with \$950.9 million, 27.0 percent of the state total.

Nearly 55,000 jobs, with \$872.8 million in wages and salaries, were supported by domestic travel spending in Kansas during 2001. Travel-generated jobs comprised 4.1 percent of the total non-farm employment in Kansas.

Domestic travel spending in Kansas also generated \$546.1 million in tax revenue for federal, state and local governments in 2001.

Economic Impacts of Wind Energy

Case Study: *The economic benefits of wind farm development in Vermont*, Prepared by Doug Hoffer, Independent Policy Analyst, October 2002

Installing wind turbines in Vermont has been strenuously debated for several years. This study, prepared for Renewable Energy Vermont, analyzes the economic benefits of meeting 10% of Vermont's electric needs using wind farms. It would require approximately six wind farms with a total of one hundred and fifty turbines constructed over a ten-year period at a cost of \$342 million, of which \$152 million would be spent in Vermont on goods and services.

Applying U.S. Commerce Department multipliers for Vermont to relevant industries, it is expected that the development phase (4 years) will produce about 140 jobs and that the construction phase (6 years) will produce about 300 jobs per year. Some jobs will be direct hires while others will result from links to the economy (i.e. suppliers) and the induced effects of spending by workers and their families. Wind farms would be located primarily in mountainous and thinly populated areas, where economic development is most needed.

A principal benefit of wind farms is the payment of lease fees to property owners for turbine sites, roadways, and power line easements. It is assumed that lease payments will equal 8% of gross revenues, resulting in payment to landowners of approximately \$2.7 million per year. In addition, it is estimated that wind farms will generate tax benefits to the state from business income tax (~\$500,000/year), state income tax (~\$245,000), and property tax (~\$2.2 million) per year. There is anecdotal evidence that the construction and maintenance of access roadways for turbines would attract residents and tourists who enjoy outdoor activities such as hiking, camping, birding, and snowmobiling. However, it is impossible to reliably estimate the economic benefits of these activities.

Case study: *A Utility-scale Wind Developer*

Global Winds Harvest, Inc. (GWH) is a privately owned US company, formed in 1999 by the principals of Energy Farming International, AG (EFI), and principals of Nordex, one of the world's leading wind turbine manufacturers. GWH was formed to develop utility-scale wind farm projects in the United States. Global Winds Harvest has a successful record of building strong relationships with communities and believes that the economic benefits are considerable:

Stable income for landowners: Most of the projects are sited on farming or ranching land and provide landowners with a stable income of \$2,500-3,500 per turbine per year. Because each turbine utilizes only a 50'x50' area of land, landowners can still use the land.

Revenues to local communities: Special Wind Funds are set up for use by communities to improve schools, roads, police and fire protection.

New Jobs: Wind farms create new jobs for local communities. Construction, Operations and Maintenance, and service industries are all areas that benefit from wind farm development. WorldWatch Institute says five times as many workers are needed for wind operations and maintenance as are needed for a conventional power plant of the same output.

III. Projected Impacts of Wind Energy Development upon the Future Development of Tourism

In order to capitalize on tourism's opportunities, Kansas must develop a strategy that will improve the ability to attract higher value visitors to the state and increase the time and money those visitors spend in the state. Young Nichols Gilstrap, *Tourism Strategy for Kansas* (1998)

The Great Plains' open and undeveloped spaces are the equivalent resource in scale and spectacle to Florida's Everglades. Yet, the Tallgrass Prairie Preserve and adjacent prairie lands are a largely undeveloped resource. With only minimal infrastructure development and marketing promotion efforts, a significant increase in visitation could be realized.

The 1998 Young Nichols Gilstrap (YNG) strategy for Kansas recommended the development of a "distinctive and unique attraction" that would be "powerful enough to bring national and international attention and visitors" to the state. YNG states, "Widespread agreement exists on the need for an independent attraction in the state." However, there is no clear agreement or direction as to what that attraction should be other than that it should be differentiated and nationally unique while building upon the state's strengths. As such, FERMATA believes that the resources of the Flint Hills/Tall Grass Prairie Region are naturally this sought after independent attraction.

FERMATA recommends an innovative approach be adopted when contemplating the potential for future sustainable tourism development in Kansas, in general, and the Tall Grass Prairie region, in particular. This *Matrix of Opportunity*TM approach involves first defining a zone of influence and identifying the natural resources of the region and those cultural and historical resources that are derived from nature. The approach then calls for a methodical planning and organization framework for developing experiential tourism offerings and promotion; and finally provides a way of applying sustainable tourism efforts to bring about long-term local economic development.

FERMATA's Matrix of OpportunityTM: An Innovative Approach to Sustainable Economic Development Through Experiential Tourism

Phase I – Preparation

1. Delineate the Zone of Influence (ZOI). What are the boundaries of the region in question and how were these boundaries determined? Obtain consensus of all parties that these boundaries are defined correctly.
2. Identify the natural resources of the destination and those cultural and historical resources that are derived from nature. This inventory information will be used to identify key market drivers to be protected or enhanced. Generally, not all resources in an area have been previously identified.
3. Identify the unique regional products and services that authentically reflect the nature, culture, and history of the destination. What exists? Who is doing what? For example look for furniture building using local produced wood, quilt-making following traditional local

patterns, and performances and demonstrations of local, nature-inspired, arts and crafts.

Phase II – Planning and Organization for Sustainable Tourism

4. Use the concept of travel trails as the means to shape, fashion, direct, and qualify travel to and within the destination. Utilize existing or proposed state or federal scenic byways and other designated routes as a backbone for these highway-based trails where possible.
5. Develop a destination brand identity based upon experiential travel and trails to help build awareness of the region; and establish the brand's core values. The destination's brand needs to be credible, deliverable, differentiating, convey powerful ideas, be enthusing for all trade partners, and resonate with consumers.
6. Prepare a detailed travel and tourism marketing strategy to move specific, identified markets to the region and its products and services via the travel trails. Components of the marketing strategy should look at the role of guides and outfitters as marketers and outreach specialists for the region, should consider how special events and festivals can serve as marketing tools, should explore the possibility for conventions and meetings to drive visitation, and should also identify appropriate integrated marketing communications tactics involving mass media (Internet, television, radio, and print) advertising and public relations.
7. Use the content of the travel trails materials to *signal* specific products and service that reflect the nature, culture, and history of the destination. Ensure consistency in imagery and messaging in all materials, products, and services to reinforce the destination's brand values.
8. Use travel trails as a marketing platform for products and services from the region – especially post-travel.

Phase III – Application of Sustainable Tourism to Local Economic Development

9. Formulate a strategy to enhance and develop broader array of attractions to offer the traveling public such as visitor centers and trail networks.
10. Formulate a strategy to enhance and develop a broader array of unique local products and services to offer the traveling public.
11. Use the new destination brand and regional identity to export products and expand services beyond local distribution to broader markets including people who have never traveled to the region.
12. Use the expanded amenity base of new attractions, products and services and the resulting improved quality of life in the region to reposition the destination to attract compatible and appropriate industries and jobs.

Recommendations for Future Development – Natural Resources

FERMATA recommends that the Flint Hills/Tall Grass Prairie Region should be developed and promoted to serve as an icon destination for Kansas. An icon epitomizes a specific habitat, and offers the public the opportunity to experience nature in its most authentic and unaltered form. An icon embodies the characteristics of the respective habitat, symbolizing nature in its most unadulterated or unmodified state. An icon transports the visitor back in time, offering a glimpse of the natural world in a primeval form.

People are swept with a disarranged set of sensations when first confronted by nature. Sounds, smells, feel – sensations that are at once pleasant, at times perplexing, or even repulsive. Perhaps the aesthetics of a location, such as the South Rim of the Grand Canyon, takes one's breath away. Perhaps the feeling of accomplishment colors the experience, such as when a birder finally identifies their first Connecticut Warbler skulking through the brush. Or perhaps the experience is sensually immersive, such as when a visitor to the Tall Grass Prairie Preserve is enveloped in the complex smells of the prairie after a late summer rain. In each case the experience is distinctive, and in each case people react to the experience in an equally singular fashion.

Travelers enter nature to expand upon their life experience, and to extend these singular moments beyond the immediate. They gather or collect experiences through the act of travel, and as they gain a familiarity in nature, these once-jarring sensations become increasingly orderly and logical. As each facet of nature is distinct, so are nature travelers equally diverse and practiced.

The opportunities for Kansas to enter the experiential tourism market are limited. Much of the Great Plains has been converted to commodity agriculture, and natural landscapes such as the Flint Hills are limited and discrete. The Flint Hills and Cheyenne Bottoms (including Quivira NWR) are among the few (if not the only) destinations in Kansas that will move nature tourists to the state. The protection of the unique attributes of these sites is a certain prescription.

However, tourism does not naturally grow and prosper on its own. For nature tourism and its enabling impacts to benefit Kansas, a far more concerted tourism promotion and product development initiative must be funded. A lack of investment in the past has left these natural icons vulnerable to competing economic development strategies and schemes. The promise of nature tourism in the Flint Hills is more potent today than when originally voiced. Yet without investment by the state, this promise will remain empty.

Recommendations for Future Tourism Markets

Research has documented that specific types of travelers have emerged. One such category, called the *Cultural Creatives*, is made up of people whose lifestyles are experiential, authentic, and holistic (Ray and Anderson 2000). They are consumers of arts and culture who seek vacations that are experiential, educational, authentic, and altruistic.

Similar to the 50 million *Cultural Creatives* worldwide are the *Bobos*, or bourgeois bohemians. This term used by David Brooks (2000) describes a new affluent group in society. *Bobos* as travelers seek to be differentiated from passive tourists, sightseers, and bus-tour participants. They don't just want to see sights; they want to "try on other lives." Brooks identifies a distinct set of travel preferences and motivations for *Bobos*. They want to get away from their affluent worlds and seek "spiritually superior worlds" and more authentic native/local culture, foods, and crafts. *Bobos* want to go to uncrowded, undiscovered places where "simple people live in abundance."

The Experience Economy, by Joseph Pine and James Gilmore (1999), defines a class of consumers who favor the consumption of experiences over traditional goods and services. They buy experiences to spend time enjoying memorable events that are personally engaging. Experiences are a distinct economic offering that occur when "a company intentionally uses services as the stage and goods as the props to engage an individual." Richard Florida (2002) also describes the purchasing decisions of the Creative Class as focused on products best categorized as unique and authentic.

According to the Travel Industry Association of America (TIA), "81 percent of U.S. adults who traveled in the past year, or 118 million, are considered historic/cultural travelers." In fact, "for 30 percent of historic/cultural travelers, their destination choice was influenced by a specific historic or cultural event or activity." Outdoor recreation and/or visiting national or state parks are also one of the top activities for U.S. travelers taking leisure trips within the U.S. One in four (27%) leisure person-trips includes some form of outdoor recreation and/or a visit to a national or state park.

YNG recommends that Kansas capitalize on its unique strengths that represent distinctive national differentiation opportunities for the state. This includes frontier history, the old west, hunting, **eco-tourism** (or nature tourism, a form of experiential tourism), and agri-tourism (another form of experiential tourism) [emphasis added].

Experiential Tourism

The ever-changing demographic landscape in the U.S., dominated by the decades-long flood of rural residents into a relative handful of cities, has captured many Midwest and Great Plains communities in a social and economic vice grip. Yet that which hurts can help as well. Many of these urbanites, isolated from the natural and cultural resources that are still contained in rural America, are vacationing out of the cities in an effort to reconnect with their roots.

As a result, experiential travel is among the most significant travel sectors in the U.S., and one that continues to prodigiously expand. As such, it represents a significant economic driver for rural communities. Experiential tourism is contributing to the economic vitality of rural America and it does indeed "work for America."

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Nature tourism encompasses a broad range of travel interests and activities that elevate and enhance the individual experiences of the traveler. These interests are disparate, and bound together solely by the shared goal of each traveler to expand personal horizons. Personal enrichment, enlightenment, stimulation, and engagement are among the primary motivators for these travelers. All of these motivators drive visitors to natural sites and protected areas.

The distinctive social aspects of special-interest travel include opportunities for personal bonding with other people who share common interests (adventure, personal growth, and physical fitness) with a small group setting. Baby Boomers are the active and vigorous generation, which started the fitness craze in earlier years. Now they also want a vacation that fits into their active, health-conscious lifestyle. Relaxation and stress reduction are also important aims, but they are achieved indirectly through the experiences from the primary travel motivations (Kutay 1992).

Nature travel is estimated to be increasing at an annual rate between ten and thirty percent (Reingold, 1993). Between forty and sixty percent of international visitors travel to enjoy and appreciate nature (Filion et al. 1992). More specifically, wildlife-associated recreation, as opposed to outdoor recreation in general, now involves millions of Americans in hunting, fishing, and a variety of non-consumptive activities such as birding, bird feeding, and wildlife photography.

A national TIA survey (The Adventure Travel Report, 1997) of 1,200 U.S. adults found that one-half of Americans (98 million adults) have taken an adventure vacation in the past five years. According to the survey, America's quest for challenge has driven the adventure travel market but the trend is also about camaraderie among friends and spending quality time with family.

Primary research conducted by FERMATA from 1998 to 2000 in four regions of the US resulted in the following profile of a nature tourist (n=2787 respondents).

Age	52.1 years
Gender	Male - 48.3%, Female - 51.7%
Annual income	\$61,962
Household size/group size	2.45 persons
Education	16.36 years (four years of college plus some graduate school)
Tourist's origin	Urban - 28.9% Suburban - 47.6% Rural (farm) - 4.3% Rural (non farm) - 19.1%
Distance to reach destination from home residence	160.4 miles (one-way)
Average length of stay	2.33 days
Average daily expenditures	\$138.45/person
Party composition	Travel as couple or family: 78.5% Travel alone: 21.5%

The primary motivations of nature tourists are to:

1. Enjoy sights, smells, sounds of nature
2. Be outdoors
3. See wildlife species not seen before
4. Get away from the demands of life
5. Enjoy family recreation (Eubanks, Ditton, and Stoll 2000)

According to ORCA, the trade association for the outdoor industry, demographic indices strongly favor a further increase in nature-based tourism. Improved health, longer lifespans, retiring Baby Boomers, and a wealthier traveling public all support past trends that indicate growth rates in nature-based tourism activities of at least ten percent annually.

Growth in wildlife watching has increased annually at rates far in excess of this, according to the most recent NSRE. Growth activities during a twenty-year period (1982-2002, NSRE) are shown in the following table:

Activity	% Growth	# Participants in millions
Walking	85.4	179.0
Birdwatching	50.0	71.2
Hiking	48.4	73.1
Swimming (natural)	36.4	92.9
Sightseeing	32.7	114.0
Picnicking	31.8	116.6
Bicycling	27.4	83.9
Camping (developed)	22.8	52.8
Motor Boating	17.8	51.4
Off-road Driving	17.3	36.7

In addition, the Baby Boomers now number 76 million and researchers agree that they will have a powerful impact on travel, due in large part to their sheer numbers. Between 1992 and the end of the decade, the number of individuals in the 45-64 age group grew by 30 percent, while the younger 25-44 set increased 5 percent. The 45-plus age group has more time and money for travel than their younger counterparts. Discretionary income is about 28 percent higher than the younger age group.

"In addition to enjoying great scenic beauty and outdoor activities, ecotourists like to learn about local indigenous peoples and their cultures. Authentic crafts, and craft-making demonstrations combined with credible cultural performances heighten the tourist experience." V. Lederman in the *International Ecotourism Society Newsletter*, 2001

A New York Times article, *This Year, The Action Is Just off The Highway*, published on June 30, 2002 supports the notion that many Americans planning summer vacations will be staying closer to home and visiting destinations reachable by car. The perception that the nation's airports are not safe is a motivating factor for people to choose destinations within driving distance. In addition to proximity, many travelers are looking for vacations that offer relaxation and a sense of escape to nature where outdoor activities are available.

Recommendations for Future Development — Infrastructure Enhancements and Marketing Promotion

The Flint Hills region and Tallgrass Prairie Preserve are under performing and need investments concurrently in enhancements, infrastructure, and marketing and promotion to achieve predicted results.

The 1999 Corridor Management Plan provides a framework for maintaining and promoting the scenic aspects of the byway. Preservation efforts focus on maintaining the unspoiled beauty of the Flint Hills; promotion activities include economic development, research, and marketing; enhancement activities address the need for documentation, interpretation, and education activities.

Similarly, the National Park Service General Management Plan/EIS for the Tallgrass Prairie National Preserve serves as a blueprint to guide management decisions in order to achieve desired futures for the preserve. The selected actions focus on the natural and cultural resources of the preserve and recommend specific visitor enhancements.

“A primary visitor information and orientation area will be developed near the junction of State route 177 and U.S. 50, near Strong City. A variety of visitor activities and facilities appropriate for a national preserve will provide for a range of opportunities, time commitments, and levels of physical exertion. A range of on-site interpretive and educational programs will be offered,

Visitor Centers – Revealing the Spirit of Place

The highest calling of a visitor center is to help people see relationships, concepts, and wholes that would be missed by the casual eye. As people discover meanings, connections and insights about a place and its stories, they are open to shared feelings of kinship with other cultures and past generations (from *Interpretive Centers*, 2002).

focusing on the natural history of the tallgrass prairie, ranching in the Flint Hills, and American Indian history and culture. A public transportation system, such as a shuttle, will be developed using existing roads and roadbeds to provide transportation, interpretive tours, and access to the prairie. Lands east of the Fox Creek bottomland will provide day use opportunities for visitors to explore the prairie and its associated human history.”

FERMATA suggests the following possible future infrastructure developments and enhancements for the Tallgrass Prairie and Flint Hills region to be implemented over time, in a “ratchet up” approach. The recommendations are presented for short-term, mid-term, and long-term implementation.

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Activity	Short-term (2005-06)	Mid-term (2007-11)	Long-term (2012 on)
Transfer all lands currently held by the National Park Trust to the National Park Service. This will allow for greater spending to take place on enhancements. An alternative to this recommendation is the local proposal supported by Governor Sebelius to transfer ownership of the preserve to a Kansas-based private trust that would be more able to develop the potential of the preserve. (In the short-term, study the best approach and take actions to initiate. In the mid-term complete transfer and see new income.)	X	X	
Pursue Federal Scenic Byway designation for the Flint Hills Scenic Byway. This designation will bring funds to the community to implement infrastructure, interpretation, and marketing of the area as well as national support and awareness of the byway status. (Next applications accepted in 2005. Seek funding once designation is received.)	X	X	
Establish working relationships with the Flint Hills Scenic Byway Committee and the National Park Service Tallgrass Prairie Preserve to evaluate the status of previously recommended actions. This will provide a measure of both progress and need to help inform future activities. It addition, it will address the need for an updated CMP required for the National Scenic Byway application process.			
Identify additional funding needs and develop a funding strategy to meet the needs.	X	X	X
Establish partnerships for mutual benefit, such as Flint Hills RC&D in Strong City. Two of the Council's four priorities are to protect and enhance natural resources and to improve the community and economic condition of the area.	X		
Position the Tallgrass Prairie and Flint Hills as an icon for Kansas. Establish a destination brand for the region. Message: Kansas IS the Great Plains. (See sidebar)	X	X	
Based upon the destination brand, prepare and implement a comprehensive integrated communications marketing strategy for use in both in-state promotions and tourism marketing.	X	X	
Design, fabricate, and install highway directional and wayfinding signage by Kansas Department of Transportation (KDOT).		X	
Provide training and technical assistance to local providers of tourism related goods and services.		X	
Develop products and then prepare and implement a marketing strategy for locally produced and regionally branded products.	X	X	X
Organize this region with other Kansas destinations into a Kansas nature and nature-related experiences trail; and connect this trail to the entire Great Plains Nature Trail.	X	X	
Upgrade Visitor Center at Tall Grass Prairie Preserve to world-class status exhibits and programming. (See sidebar)		X	
Establish cooperative advocacy between local and state agencies, the community, and landowners. Examples include educational programs offered on private land for visitors to learn about wildlife, habitats, endangered species, etc.	X	X	X

Destination Branding

Based upon assessment of the Region's resources and amenities that allow it to serve as a tourism destination, a Kansas Great Plains "brand" should be created. The success of this destination brand will depend upon how its "personality" interacts with the target markets. Successful brands reflect and respond to changes in consumers' lives. Kotler (Marketing Places 2002) states, "Places must decide on not only how many tourists they want and how to balance tourism with other industries or strategies but also what kind of tourists they want. The choices will be constrained, of course, by the place's climate, natural topography and resources, history, culture, and facilities. Not every tourist is interested in a particular destination. A place would waste its money trying to attract everyone who travels. Instead of a shotgun approach, a place must take a rifle approach and sharply define its target markets. "

Destination brand building is all about developing a rich, relevant brand personality. While the brand's core values remain the same, its personality will continue to evolve (Morgan, et al 2002). The position of the Flint Hills Region as the icon for the Great Plains as a land of both healthy natural resources and beauty will translate into the rational benefit of encountering history, heritage, and folklore. At the emotional level, visitors will experience awe of the elements and be rejuvenated by the experience.

Impacts of Tourism Development

In addition to the traditional economic impacts from tourism (direct, indirect, and induced) described in the previous section, there are two additional benefits that are critically important to the region:

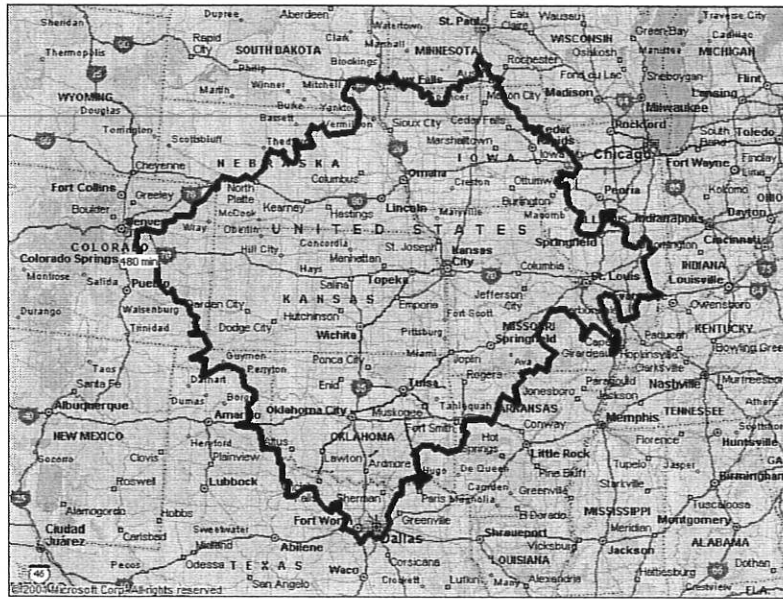
- **Environmental impacts.** While there can be negative effects that occasionally are attributed to tourism development (such as the draining of a marsh to build a golf course), ecologically and culturally sensitive tourism development can benefit the environmental health of a region. Tourism revenues allow communities to invest in green spaces, hike-and-bike trails, interpretative centers, and a variety of amenities that are enjoyed by travelers and residents alike. Tourism, economic development, and conservation efforts can work in concert.
- **“Enabling” benefits.** Experiential tourism development in Flint Hills communities will directly lead to an enhanced quality of life in the region. Amenities demanded by tourists also benefit residents. A diverse offering of restaurants, theaters, retail shopping, and cultural centers represents an amenity base upon which future economic development efforts may be constructed.

The U.S. is comprised of 50 states vying to be the next economic growth engine. Most have realized that the future of high-end industry in this country depends on human resources. There are countless communities in the U.S. that want to attract a biomedical research lab or a nanotechnology center. All are able to extend tax abatements, offer new shell buildings, and pipe in the next generation Internet services. The few communities that will succeed will be those who recognize that the human resource will be the critical deciding factor. In the end, the next nanotechnology center will be dependent on researchers deciding where they want to live and raise their families.

Increased visitation comes primarily from creating new markets or expanding existing markets. Possible markets include population centers in-state and from contiguous states within a day’s drive of the Flint Hills area, both urban and suburban areas from which FERMATA’s research shows that most (76.5%) nature travelers originate. The NSRE (1994-1995) indicated that 85 percent of nature lovers traveled by auto to locations more than five hours distant. Since distance visitors typically spend more than those who live close by, this market could greatly increase the economic potential. Of all nature lovers, 20.4 million people (76.36%) participate in wildlife-viewing activities.

According to the most recent U.S. Census data, about 26.9 million people live in the urban and suburban areas of major metropolitan areas within a day’s drive (8 hours) of the Flint Hills. (See map and data table.)

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Selected examples of population in Metropolitan Areas within a day's drive of the Flint Hills Region (1999 US Census Data adjusted to 2004)

		Population est. in 1999	percent growth	pop. In 2004
Amarillo	Texas	208,691	0.008	217,173
Cedar Rapids	Iowa	184,891	0.012	196,254
Chicago	Illinois	8,008,507	0.007	8,292,756
Colorado Springs	Colorado	499,994	0.02	552,034
Dallas - Fort Worth	Texas	4,909,523	0.024	5,527,631
Denver	Colorado	1,978,991	0.022	2,206,471
Evansville	Indiana	291,181	0.003	295,575
Fort Collins - Loveland	Colorado	236,849	0.025	267,973
Kansas City	Kansas/Missouri	1,755,899	0.011	1,854,622
Lincoln	Nebraska	237,657	0.009	248,546
Little Rock	Arkansas	559,074	0.009	584,689
Oklahoma City	Oklahoma	1,046,283	0.008	1,088,809
Omaha	Nebraska	698,875	0.008	727,281
Peoria	Illinois	346,480	0.001	348,216
Pueblo	Colorado	136,987	0.015	147,574
Sioux Falls	South Dakota	164,481	0.023	184,287
Springfield	Illinois	204,030	0	204,030
Springfield	Missouri	308,332	0.012	327,281
St. Louis	Missouri	2,569,029	0.003	2,607,796
Topeka	Kansas	170,773	0.002	172,488
Tulsa	Oklahoma	786,117	0.012	834,430
Wichita	Kansas	548,714	0.009	573,855
		25,302,644		26,885,916

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Of these people, it is estimated that at least 13.5 percent would fall into the sociodemographic group described above as the *Creative Class*. This amounts to over 3.6 million people who could be potential visitors to the area. If only 10% of these people actually visited the region, that would still equal about 363,000 visitors. Adjusting these current numbers for anticipated future population growth expected between now and the year 2012 and assuming that the size of the Creative Class grows to 16% of the general population by that time, the Flint Hills region could expect possible annual visitation of over 446,000 people annually.

Taking another approach to computing possible future visitation levels, FERMATA considered a modest visitor growth scenario outlined in the following table. This approach assumes that with the implementation of the recommended infrastructure enhancements and marketing and promotional activities, current visitation to the region could be expected to grow to at least 92,000 people per year — more than double the current estimated number of visitors.

	Annual Flint Hills visitors	Adjustments	
1998	41,000	1%Based on current	Current
1999	41,410	1%growth/word of mouth	
2000	41,824	1%	
2001	42,242	1%	
2002	42,665	1%	
2003	43,091	1%	
2004	43,522	1%	
2005	45,698	5%current growth plus limited new marketing activities and	Short term
2006	47,983	5%some new amenities	
2007	52,782	10%current plus considerable additional new marketing	Mid term
2008	58,060	10%activities and new amenities	
2009	63,866	10%	
2010	70,252	10%	
2011	77,278	10%	
2012	92,733	20%	Long term

A third approach to estimating future visitation levels in the Flint Hills region involves starting with the NSRE figures from 1999 that 71.2 million people 16 years old or older (or 25% of all Americans) viewed birds. FERMATA theorizes that the same proportion of people within a day's drive would share this interest or a general interest in nature tourism activities. This amounts to a potential market size of over 6.7 million people. If only five percent of this market were to actually visit the Flint Hills region each year after the completion of FERMATA's recommended enhancements, this would amount to about 336,000 people per year visiting the area, more than seven times the current annual visitation at the Tallgrass Prairie Preserve!

Economic Benefits for Rivers, Trails, and Greenway Corridors that Apply to the Flint Hills

Real Property Values: Greenways, recreational rivers, and trails may increase nearby property values. An increase in property values can increase local tax revenues and help offset protected area management.

Expenditures by Residents: Spending by local residents on greenway, trail, river-related recreation activities can help support recreation-oriented businesses and employment, as well as other businesses that are patronized by these residents.

Commercial Uses: Associated with a protected river, greenway, or trail is the potential for concessions and special events. These can boost local business as well as raise funds for additional river restoration efforts.

Tourism: Protected greenways, rivers, and trails attract visitors to a community and support local businesses such as lodging, food establishments, and recreation-oriented services (i.e., guides and outfitters). Clean recreational rivers may also help to improve the overall appeal of a community to visitors and, as such increase tourism to the region.

Agency Expenditures: The agency responsible for managing a river, trail, or greenway can support local businesses by purchasing supplies and services. Jobs created by the managing agency may also help increase local employment opportunities and benefit the local economy.

Corporate Relocation and Retention: The quality of life of a community is an increasingly important factor for retaining and attracting corporations and businesses, and greenways, rivers, and trails can be important contributors to the quality of life. Corporations bring jobs to a community and help support businesses, which provide services and products to corporations and their employees.

Public Cost Reduction: The conservation of rivers, trails, and greenways may help local governments and other public agencies to reduce long-term costs for services such as roads and sewers; reduce costs resulting from injury to persons and property from hazards such as flooding; and avoid potential costly damages to natural resources such as water and fisheries.

Source: National Park Service, 1995

Regardless of the approach used to estimate future visitation, the area possesses the potential of attracting a total of 92,000 – 446,000 visitors annually by the year 2012, provided that infrastructure and marketing developments are undertaken immediately. FERMATA believes that these are all conservative projections. In the near term, there is no infrastructure in place to support an increase in tourism. In order to attract the caliber of tourist desired and keep them in the area for extended stays, the area must possess visitor services and amenities as well as experiential opportunities. Therefore, we recommend using the most conservative of the projections for assessment of possible impacts.

The Flint Hills/Tallgrass Prairie region is similar in many ways to the quality and character of protected rivers, trails, or greenway corridors. Information, extrapolated from a summary of economic benefits of protecting rivers, trails, and greenway corridors (National Park Service, 1995) can be interpreted as relevant to all protected areas and thus, applicable to the Flint Hills/Tallgrass Prairie region (see sidebar).

According to a recent study by the Travel Industry Association of America, “Most American travelers (73%) place a high importance on a clean, unpolluted environment when they take a leisure trip. Most American travelers (80%) highly value outstanding scenery, as well. Many (61%) believe that their experience is better when their destination preserves its natural historic and cultural sites” (TIA 2004).

Economic Impacts of Experiential Tourism

FERMATA believes that experiential tourism will allow Flint Hills to utilize existing resources (nature, culture, and history) to attract additional travelers. These travelers will invest in a variety of amenities that are valued by residents as well. As the amenity base (or quality of life) improves, the region will be better positioned to attract high-end industries that would have fled elsewhere. Combined with specific efforts to develop a diversity of local products and services for this travel market (such as value-added agricultural products and experiences), Flint Hills' residents have much to gain from the business of nature.

Nature tourism, in fact, demonstrates exceptional adaptability to most economic cycles. During booms, international and long-haul markets can be targeted, and during recessions the focus can be geared down to regional, auto-travel. No such flexibility exists for artificial, attraction-based venues, which depend exclusively on long-haul markets.

Birding and other nature tourism development and promotion in other parts of the country have helped to make significant economic contributions to local communities. Enhancements to the Tallgrass Prairie Preserve and surrounding Flint Hills region could provide an important boost to the area's economy. Bird watchers spent \$7.4 billion nationwide in 2001 for food, lodging, transportation and other trip related expenses; and another \$24.3 billion for wildlife watching equipment and other expenses (USFWS 2001).

The following projections of tourism expenditures are based upon FERMATA's proprietary research that found the typical spending of a nature tourist is about \$138/person/day (2000 dollars) while these visitors are in regions with a fully developed nature tourism amenity base (including sites, interpretation, marketing, etc.). These travelers spent most of their money on food, lodging, and transportation.

*Assessment of the Economic and Tourism Impacts
of Siting Wind Energy Developments in Kansas Natural Areas*

	Daily visitor spending per person - all of KS	Adjustments			Daily spending increase	Revenue projection if all visitors were overnight travelers	More likely revenue projection based on some portion of the travelers not staying overnight or staying in private accommodations	Overnight in a lodging property/local visitor ratio in the Flint Hills	Increase over current levels
1998	\$60.00					\$2,460,000	\$492,000	0.20	
1999	\$61.80	Inflation only - 3%				\$2,559,138	\$511,828	0.20	
2000	\$63.65	Inflation only - 3%				\$2,662,271	\$532,454	0.20	
2001	\$65.56	Inflation only - 3%				\$2,769,561	\$553,912	0.20	
2002	\$67.53	Inflation only - 3%				\$2,881,174	\$576,235	0.20	
2003	\$69.56	Inflation only - 3%				\$2,997,285	\$599,457	0.20	
2004	\$71.64	Inflation only - 3%				\$3,118,076	\$623,615	0.20	\$0
2005	\$80.63		Short term	\$125.75	\$8.98	\$3,684,461	\$810,581	0.22	\$186,966
2006	\$89.61					\$4,299,689	\$988,929	0.23	\$365,313
2007	\$107.57	Spending can be expected to grow twice as quickly in the mid-term as it did in the short-term	Mid term			\$5,677,870	\$1,646,582	0.29	\$1,022,967
2008	\$125.54					\$7,288,690	\$2,332,381	0.32	\$1,708,766
2009	\$143.50					\$9,164,895	\$3,207,713	0.35	\$2,584,098
2010	\$161.47					\$11,343,454	\$4,310,512	0.38	\$3,686,897
2011	\$179.43					\$13,866,076	\$5,685,091	0.41	\$5,061,476
2012	\$197.40					\$138.45	Long term		\$18,305,223
FERMATA's typical nature tourism visitor spending adjusted for inflation + not included additional spending that could occur if authentic local products were developed and sold.									

FERMATA's research also shows that nature tourists are willing to make additional purchases during their trip – mainly for products and services – but only if these items are made by or offered by local businesses. So, provided that local entrepreneurial goods and services enterprises are begun or are expanded in the Region, it is possible that additional spending in the amount of \$202/visitor/trip could take place.

Economic Impacts of Scenery Preservation and Wind Energy Development

In 2002, more than 21.6 million recreation visits were made to the Blue Ridge Parkway making it the most visited national park unit. While the Great Smoky Mountains National Park (GSMNP) visitors are a more general visitor than is projected/targeted for the Tallgrass Prairie Region, nonetheless this information provides a useful comparison here.

The Blue Ridge Parkway is a linear national park extending 469 miles from Shenandoah National Park in Virginia to GSMNP in North Carolina. The park is a scenic motor road designed by landscape architects to enable visitors to enjoy the scenic beauty of the region from their vehicles. Along the way there are restaurants, campgrounds, interpretive areas, and hundreds of miles of hiking trails. Research indicates that the primary reason most visitors make a trip to the Parkway is to enjoy the views.

The basis for the following comparison is the estimate of new job opportunities related to wind energy development in Vermont. The proposed development is for 150 turbines to be built during a ten-year period (4-year development phase combined with 6-year construction phase). The job creation estimates are for 140 jobs per year for the 4-year development phase and 300 jobs per year for the 6-year construction phase for a total of 2360 new jobs [140 x 4 + 300 x 6 = 2360]. Using 150 turbines as the base and applying the multiplier to the anticipated number of turbines in each of three wind farm developments in the Flint Hills region, new job opportunities are as follow:

The Blue Ridge Parkway Scenic Experience Project was conducted in the summer and fall of 2002 as a collaborative project between the National Park Service, two universities, and an independent consultant. The study (n=640) was designed to determine the benefits of the scenic experience and how change in the scenic quality would affect visitation; how much visitors would pay to preserve scenic quality; and how much they would pay to improve it.

In dollar terms, the scenic views along the Parkway in North Carolina are worth upwards of \$5 billion a year to the visitors who enjoy them. Visitors attached a value of \$468-519 per person to experiencing the views along the Parkway. Based on the average of more than 11 million visits per year, this yields the \$5 billion value of visitor satisfaction received. Actual expenditures were reported as \$603 for a 3.5-day average trip, or about \$170/person/day.

About one-fourth of respondents indicated they would decrease visits if scenic quality declines. If scenic quality remains the same, eighty-eight percent would increase the number of visits from 5.2 to 6.5, generating hundreds of millions of dollars of additional annual expenditures. Likewise, visitors will make fewer trips if scenic quality declines; in fact, the study model predicts that many visitors will completely stop visiting.

Survey respondents overwhelmingly supported resource protection efforts and indicated a willingness to pay \$151.14/person annually to preserve the scenic quality and an additional \$328/year in federal income tax to improve it.

Scenic quality is an important quality along the northern North Carolina section of the Parkway and an important reason for visitation. Just because people don't pay for the scenic beauty of the region doesn't mean that they don't value it. In fact, the study suggests that both scenic beauty and visibility are highly rated.

Source: The Blue Ridge Parkway Scenic Experience Project Phase II Final Report
www.nps.gov/blri/pphtml/documents.html

*Assessment of the Economic and Tourism Impacts
of Siting Wind Energy Developments in Kansas Natural Areas*

Location	Number turbines	Multiplier	4- year Development	6- year Construction	Total jobs over 10 years
Beaumont	385	2.57	1440	4626	6066
Cassoday-Burns	424	2.83	1568	5040	6608
Gun Barrel	260	1.73	968	3114	4082
Total					16,756

The same locations, number of turbines, and number of landowners in the development area was used to achieve an average number of turbines per landowner. Using this average and applying an average of \$3,000 per turbine paid to the landowner based on Global Winds Harvest, Inc. estimates, the economic gain to the landowner is projected in the following table. (It should be noted that according to the Oregon Department of Energy, recent wind projects in Eastern Washington have leases with landowners for \$1500 to \$2500 per turbine per year.)

Area	Number Turbines	Number Owners	Turbines/Owner	Potential annual revenue/owner
Beaumont	385	35	11	\$33,000.
Cassoday-Burns	424	60	7	\$21,000.
Gun Barrel	260	35	7.42	\$22,290.

Based upon this information, it appears that over the long term, a sustainable tourism economy will exceed any short-term revenues realized for turbine development. In addition, placement of wind turbines in the Flint Hills will preclude its potential tourism value. If landowners, goods and service providers, and tourism promoters worked together to offer an enhanced array of travel opportunities and experiences, travel and tourism could serve as the catalyst by which the Region could revision its economy and its future.

IV. Reducing Tourism Impacts of Siting Wind Energy Developments

In general, there are other highly developed (or suitable for development) landscapes that exist in Kansas that are the more logical locations in which to site wind energy development. The tallgrass prairie possesses a unique visual attribute and an ecological significance of international importance. FERMATA believes that to develop wind energy facilities here would forever destroy or diminish these attributes.

FERMATA envisions two possible alternatives for evaluating siting proposals for wind energy developments in the Flint Hills: One more liberal and the other more conservative.

The conservative approach would disallow wind energy development in any area in the contiguous tallgrass prairie region (see map, Appendix A) and any lands that could be seen from there. The second more liberal approach will allow Kansas to identify zones that are suitable for wind energy development and at the same time protect the world-class tallgrass prairie as a tourism attraction.

The recommended methodology and siting guidelines in this approach are based upon review of the literature on the subject of visual and noise impacts and effects to tourism of wind energy development. There is not one set of internationally accepted criteria for facility siting. Nor is there any one universally adopted methodology. Presented here is a combination of several sets of guidelines that were modified to fit the present situation in Kansas, and the rest of the Great Plains of North America today.

Process

1. Identify all Class I and Class II sites in the eight-county Flint Hills/Tallgrass Prairie region. Utilizing GIS mapping, plot all of these sites to the level of detail to show parcel boundaries. This should be undertaken in the near term by the Kansas Geological Survey at Kansas State University, Kansas Parks and Wildlife, or qualified others.
2. Plot five-mile buffer zones around each of the Class I and Class II sites.
3. Produce maps showing the Class I and Class II sites, the buffers around the sites, and the regions containing Class III sites.

Definitions

Class I Site – An internationally or nationally protected area (key market drivers). These include RAMSAR sites, National Park or federal lands managed by others on behalf of the National Park Service, National Forests or Grasslands, National Wildlife Refuges, or the nationally recognized properties of conservation organizations such as The Nature Conservancy.

Class II Site – Areas of local importance or regional significance (other market drivers). These include public lands such as State Parks, State Wildlife Management Areas, and State Natural Areas; lands designated for special management such as Flint Hills Kansas Scenic Byway and historic sites; County Parks; and lands owned by Kansas non-profits and managed for conservation purposes.

Class III Site – All other areas (not market drivers) that are not Class I or Class II sites or within the five-mile buffer zones for Class I or Class II sites.

Development guidelines

Site	Appropriate level of development
Class I sites	Allow no development on any of the lands included in the parcel of a Class I site.
Class I five-mile buffer areas	If development permission is requested in this area, require developer to prepare a noise and visual impact assessment that includes ground-truthing using helium-balloon modeling of actual impact. <ul style="list-style-type: none"> ▪ Allow development only if no impact is demonstrated, i.e., 0% of horizon is impacted; and appropriate noise and visual impact/tourism resource mitigation measures can be devised.
Class II sites	Allow no development on any of the lands included in the parcel of a Class II site.
Class II five-mile buffer areas	If development permission is requested in this area, require developer to prepare a noise and visual impact assessment that includes ground-truthing using helium balloon modeling of actual impact. <ul style="list-style-type: none"> ▪ Allow no development if such development would fundamentally impact the intended purpose and function of the Class II site itself. ▪ Allow development only if minimal impact is demonstrated, i.e. 20% or less of horizon is impacted, in total, by the proposed development plus any existing developments of any type (cell phone towers, power transmission lines, etc.); and appropriate noise and visual impact/tourism resource mitigation measures can be devised.
Class III sites/areas	Development zone. Allow wind energy development here with no noise or visual impact assessments required and no mandatory mitigation measures.

The following are recommendations made by the North Carolina Sustainable Energy Association, part of the wind power industry, for development of wind power in North Carolina:

“Myth: Wind power will destroy mountain vistas. Placement of wind turbines should be restricted so as to not detract from places of important scenic beauty. Potential areas that should be excluded from turbine placement consideration are:

- National Parks
- State Parks
- National Forest lands
- View shed buffers along the Appalachian Trail
- View shed buffer zones along the Blue Ridge Parkway

- Spruce-Fir Forest lands (one of the most unique and endangered ecosystems in the Appalachian region)

“Wind turbines should be located where there are existing communication towers, existing transmission lines [capable of carrying the new power load], and other forms of existing structures.”

This approach in North Carolina is very similar to what is being recommended in the Flint Hills. The Flint Hills is a region of exceptional and “important scenic beauty”. FERMATA is recommending that protected lands (Class I Sites) be excluded from development, as well as view shed buffers around these protected lands. It would seem that, at least in North Carolina, the industry agrees with this approach.

Possible mitigation measures for addressing impacts to visual and tourism resources

FERMATA recognizes that the establishment of a five-mile visual and sound buffer around Class I and Class II sites will impact landowners within these zones. This is precisely how we created the following idea of a mitigation fund that will help promote and develop experiential tourism in the region. While property owners adjacent to Class I and Class II sites are disadvantaged in regard to wind power development, they are advantaged in regard to tourism. Therefore a concurrent effort to expand tourism opportunities within the Flint Hills will mitigate for any loss these property owners may feel in this wind power initiative.

We recommend that the State require wind energy developers to pay a mitigation fee. These fees would be used to establish a fund to benefit landowners and/or local communities with Class I or Class II sites or in buffer zones that are found to be unacceptable for wind energy development. The fund would also be used to provide technical assistance to local entrepreneurs seeking to develop tourism products (such as value-added agriculture) and services (i.e., guided naturalist tours) or to expand current offerings. Funds would also go for tourism marketing and promotion activities for the Flint Hills/Tallgrass Prairie region.

Another new state-funded incentive program could be created that would be similar to USDA’s CRP program that compensates farmers for withdrawing their lands from production for conservation purposes. This approach has been used successfully in Canadian, Texas, where conservation groups, communities, private landowners, and urban guests have established a partnership that helped the region grow into an experiential tourism leader and brought awareness of the beauty, culture, history, and wildlife habitat.

V. References

Associated Press (Posted Thursday, January 29, 2004) Wind farm bill would stop development in Flint Hills.

Brooks, D. 2000. *Bobos in Paradise*. New York: Simon and Schuster.

Business Survey: Economic Impact of Kansas Scenic Byway Designation on the Flint Hills Scenic Byway Communities. 2001. Prepared by Kansas Scenic Byways Program, Kansas Department of Transportation, and Bucher, Willis & Ratliff Corporation.

Corridor Management Plan. Flint Hills Scenic Byway, Kansas Route K-177. 1999. Flint Hills Scenic Byway Management Committee.

Filion, F.L., Foley, J.P., and Jacquemot, A.J. 1992. *The economics of global ecotourism*. Paper presented at the IVth World Congress on National Parks and Protected Areas. Caracas, Venezuela.

Florida, Richard. 2003. *The Rise of the Creative Class: And How It's Transforming Work, Leisure, Community and Everyday Life*. Basic Books.

General Management Plan, Environmental Impact Statement. 2000. Tallgrass Prairie National Preserve, Kansas. US Department of the Interior, National Park Service.

Gross, M. P. and Zimmerman, R. 2002. *Interpretive Centers: The History, Design, and Development of Nature and Visitor Centers* (Interpreter's Handbook Series) University Wisconsin, Stevens Point.

Guide for Designating Kansas Scenic Byways. 1998. Prepared by Kansas Department of Transportation and Kansas Scenic Byways Committee and Bucher, Willis & Ratliff Corporation.

Kotler, P. and Haider, D. 2002. *Marketing Places: Attracting Investment, Industry, and Tourism to Cities, States, and Nations*. Free Press.

Kutay, K. 1992. *Ecotourism marketing: Capturing the demand for special interest nature and culture tourism to support conservation and sustainable development*. Seattle, WA: Wildland Adventures, Inc.

Morgan, N., Pritchard, A., Pride, R. 2002. *Destination Branding, Creating the Unique Destination Proposition*. Butterworth-Heinemann.

Pine, J., and Gilmore, J.H. 1999. *The Experience Economy*. Boston, MA: Harvard Business School Press.

Ray, P.H. and S. R. Anderson. 2000. *The Cultural Creatives: How 50 million people are changing the world*. New York: Harmony Books. 331-332, 35-37.

Reingold, L. 1993. Identifying the elusive ecotourist. In *Going Green*. A supplement to *Tour and Travel News*, October 25: 36-37.

The Economic Benefits of Wind Farm Development in Vermont. 2002. Prepared for Renewable Energy Vermont by Doug Hoffer.

Tourism Strategy for Kansas, Final Report. 1998. Young Nichols Gilstrap, Inc.

Travel Industry Association of America. 2003. *Impact of Travel on State Economies 2001*. Washington, DC.

Travel Industry Association of America. 2004. *Geo-tourism: The new trend in travel*. Washington, DC.

US Fish and Wildlife Service. 1997. *1996 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation*. Washington, DC.

Visitor Survey: Economic Impact of Kansas Scenic Byway Designation on the Flint Hills Scenic Byway Communities. 1999. Prepared by Kansas Scenic Byways Program, Kansas Department of Transportation, and Bucher, Willis & Ratcliff Corporation.

Wilkerson, C. 2003. Travel and tourism: An overlooked industry in the U.S. and Tenth District. In *Economic Review 3rd Quarter 2003*. Federal Reserve Bank of Kansas City.

Internet sources:

<http://www.byways.org/browse/byways/2095/>

<http://www.globalwinds.com>

http://www.cr.nps.gov/history/online_books/tapr/index.htm

<http://www.nps.gov/tapr/pphtml/nature.html>

<http://www.nps.gov/tapr/pphtml/nature.html>

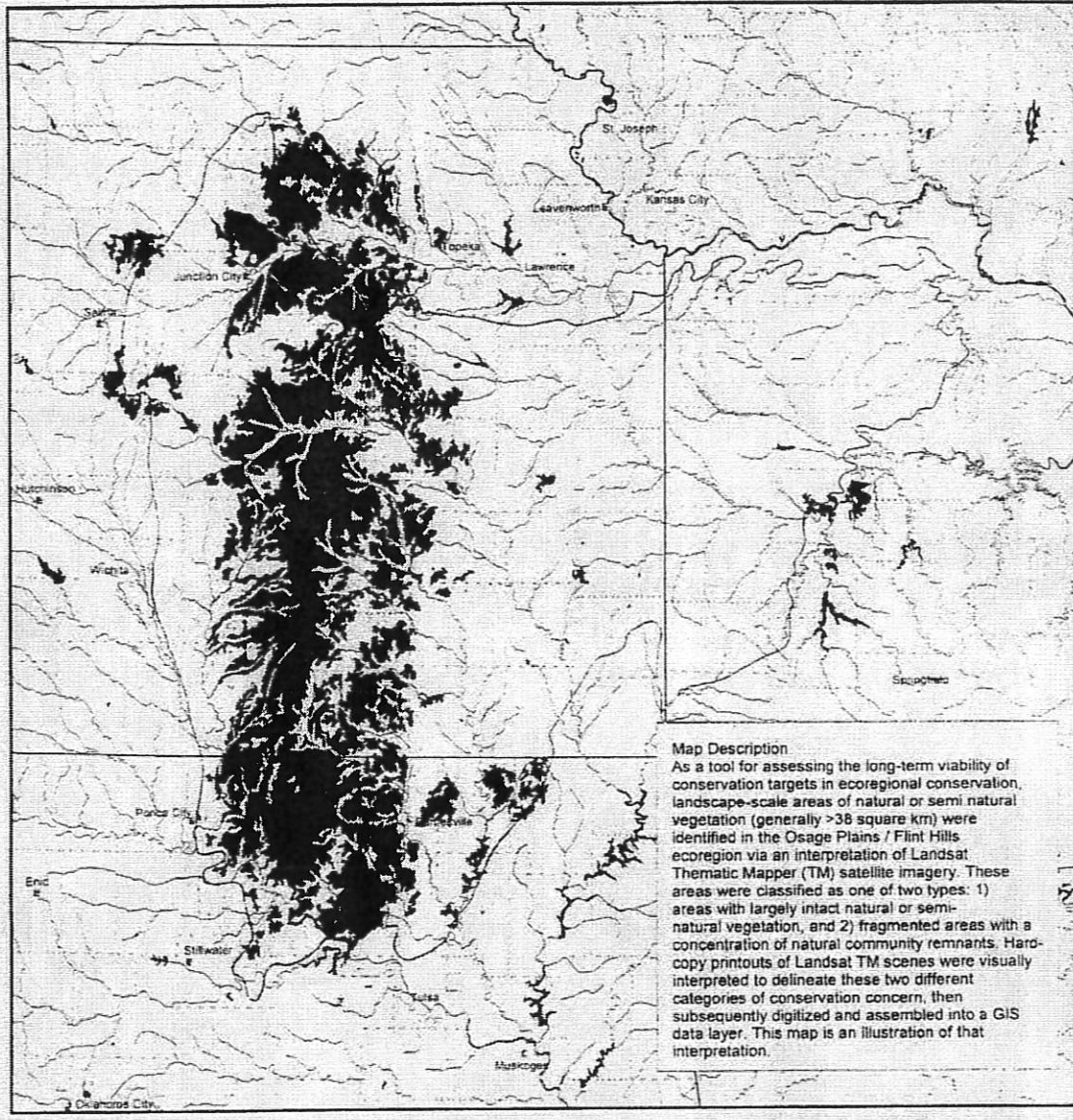
<http://skyways.lib.ks.us/counties/CS>

<http://www.councilgrove.com>

VI. Appendices

Appendix A: Tallgrass Prairie Ecosystem

**Relatively Intact or "Untilled" Natural Community Landscapes
(e.g. prairies, savannas) in the Osage Plains / Flint Hills Ecoregion**



Map Description
As a tool for assessing the long-term viability of conservation targets in ecoregional conservation, landscape-scale areas of natural or semi natural vegetation (generally >38 square km) were identified in the Osage Plains / Flint Hills ecoregion via an interpretation of Landsat Thematic Mapper (TM) satellite imagery. These areas were classified as one of two types: 1) areas with largely intact natural or semi-natural vegetation, and 2) fragmented areas with a concentration of natural community remnants. Hard-copy printouts of Landsat TM scenes were visually interpreted to delineate these two different categories of conservation concern, then subsequently digitized and assembled into a GIS data layer. This map is an illustration of that interpretation.

Legend

Untilled Landscapes	Ecoregion Boundary	Urban Areas
Concentration of Fragments	State Lines	Other Cities
Lakes and Rivers	County Lines	

Serving the Last Great Places

0 25 50 Miles

Map by: The Nature Conservancy, Midwest Conservation Science Center. © August 2000, The Nature Conservancy. Modified by KSFO 10/09/03.

Appendix B: Key Resources (from Corridor Management Plan, March 1999)

The following list represents resources identified by the Flint Hills Scenic Byway Management Committee as key elements important to the byway and to consideration in the corridor management plan.

INTRINSIC RESOURCES

Scenic Resources

Rogler Ranch Stone Fences (north of Matfield Green)
Railroad (Orient) right-of-way on east side of byway (south of Matfield Green)
Schrumpf Hill (2.8 miles south of Cottonwood Falls)
Chase County Courthouse (Cottonwood Falls)
Cottonwood River Falls (Cottonwood Falls)
Z Bar Ranch/Spring Hill Ranch/National Tallgrass Prairie Preserve (north of Strong City)
River Walk (Council Grove)
Madonna of the Trail (Council Grove)
Kaw Indian Warrior sculpture (Council Grove)
Numerous opportunities to view Flint Hills along the byway while driving

Historic Resources

Cassoday Museum (Cassoday)
Railroad bridge over K-177 (north of Cassoday)
Railroad section house (north of Matfield Green)
Rogler log cabin (north of Matfield Green)
Knute Rockne Memorial (Bazaar)
Bazaar cemetery (Bazaar)
Chase County Courthouse (Cottonwood Falls)
Cottonwood River Falls (Cottonwood Falls)
Roniger Native American Museum (Cottonwood Falls)
Sam Woods house (Private – east of Cottonwood Falls)
Santa Fe Depot (Strong City)
W.B. Strong Memorial Railroad Park (Strong City)
Stone Arch Bridge over Fox Creek (Strong City)
Z Bar Ranch/Spring Hill Ranch/National Tallgrass Prairie Preserve (north of Strong City)
Fox Creek School (north of Strong City)
Santa Fe Trail (Council Grove)
Kaw Mission State Historic Site/Museum (Council Grove)
Old Bell Monument (Council Grove)
Farmers and Drovers Bank (Council Grove)
Council Oak (Council Grove)
Cottage House Hotel (Council Grove)
Conn Stone Store (Council Grove)
Council Grove National Bank Building (Council Grove)
Old Cowboy Jail (Council Grove)
Hermit's Cave (Council Grove)
Seth Hays Home (Council Grove)
Cemetery Wall (Council Grove)

Last Chance Store (Council Grove)
Custer's Elm (Council Grove)
Post Office Oak and Museum (Council Grove)
Neosho River Crossing (Council Grove)
Durland Park (Sylvan Park Depot, Caboose, Buckeye Oil Engine, KATY Depot – Council Grove)

Cultural Resources

Cassoday Café (Cassoday)
Stockyards at Kansas Turnpike (Cassoday)
Cassoday Rodeo (Cassoday)
Trail Rides (Cassoday)
Overland Wagon Train (Cassoday)
Courthouse Christmas Lighting (Cottonwood Falls)
Flint Hills Rodeo Parade (Cottonwood Falls/Strong City)
Flint Hills Rodeo (Strong City)
Flint Hills Ranch Rodeo (Strong City)
Voices of the Wind People Pageant (Council Grove)
Wah Shun Gah Days (Council Grove)
Council Grove Ranch Rodeo (Council Grove)
Cattle (throughout the byway)
Wildflower Tour (first week in June)
Tours by special arrangement (Grand Central Hotel, Cottonwood Falls/City of Council Grove)
Flint Hills Adventures Travel (area wide)

National Register Listings

Crocker Ranch (north of Matfield Green)
Pioneer Bluffs Ranch Historic District (north of Matfield Green)
Cartter Building (cottonwood Falls)
Chase County Courthouse (Cottonwood Falls)
Chase County National Bank (Cottonwood Falls)
Cottonwood River Bridge (north edge of Cottonwood Falls)
Samuel N. Wood House (east of Cottonwood Falls)
Spring Hill Ranch House (north of Strong City)
Lower Fox Creek School (north of Strong City)
Cottage House Hotel (Council Grove)
Council Grove Carnegie Library (Council Grove)
Council Grove Historic District (Council Grove)
Council Grove National Bank (Council Grove)
Farmers and Drovers Bank and Indicator Building (Council Grove)
First Baptist Church (Council Grove)
Kaw Methodist Mission (Council Grove)
Seth Hays House (Council Grove)
Last Chance Store (Council Grove)
G.M. Simcock House (Council Grove)
U.S. Post Office (Council Grove)

Big John Farm Limestone Bank Barn (Council Grove)
William Young Archeological Site (Council Grove Reservoir)

Natural Resources

Limestone quarries
Limestone characteristics that make Flint Hills
Grasses
Wildflowers
Whitetail deer, turkey, eagles, antelope
Oaks, walnut, cottonwood trees
Cottonwood River
Council Grove Reservoir Nature Trails
Council Grove Reservoir Wildlife Areas

Recreational Resources

Fishing (cottonwood River, Chase State Lake)
Hiking (Z-Bar Ranch/Tallgrass Prairie National Preserve)
Nature Trails and Playground at Council Grove Reservoir
Boating, skiing, fishing (Council Grove Reservoir, Council Grove City Lake)
Limited hunting of migratory birds
YMCA Camp Wood (Elmdale)
Community Celebrations

Archeological Resources

Roniger Native American Museum
National Park Trust
Corps of Engineers Display at Council Grove Reservoir
Private lands

TOURIST AMENITIES

Dining

Cassoday Café
Hitching Post (Matfield Green)
Casey's General Store (Cottonwood Falls)
Emma Chase Café (Cottonwood Falls)
Grand Central Hotel (Cottonwood Falls)
Mary's Place (Cottonwood Falls)
Senior Center (Cottonwood Falls)
Flint Hills One-Stop Truck Stop (Strong City)
Pizza Hut (Strong City)
Quik Shop (Strong City)
Wagon Wheel Restaurant (Strong City)
Coastal Convenience Store (Council Grove)
Dairy Queen (Council Grove)
Deli Shop (Council Grove)
Hays House (Council Grove)

Pizza Hut (Council Grove)
Saddle Rock (Council Grove)
Sonic (Council Grove)
Trailside Diner (Council Grove)

Picnic Areas

Bazaar
Bates Park (Cottonwood Falls)
Swope Park (Cottonwood Falls)
Strong City Park (Strong City)
W.B. Strong Memorial Railroad Park (Strong City)
Custer's Elm (Council Grove)
City Parks (3-Council Grove)

Lodging

Prairie Star Guest Ranch (Cassoday)
Cassoday Country Inn (Cassoday)
Sunbarger House (Cassoday)
Grand Central Executive Hotel (Cottonwood Falls)
Mill Stream Motel (Cottonwood Falls)
Stone House Bed and Breakfast (east of Cottonwood Falls)
Clover Cliff Bed and Breakfast (Elmdale)
Carol's Country Inn (Strong City)
Flint Hills Motel (Strong City)
Cottage House (Council Grove)
Old Trail Motel (Council Grove)
Flint Hills Bed and Breakfast (Council Grove)

Information Centers

Chase County Chamber of Commerce

Public Restrooms

Chase County Chamber of Commerce (during office hours)
Chase County Courthouse (during office hours)

Camping

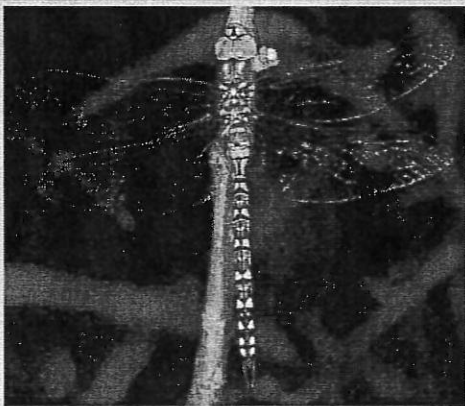
Cassoday Park
Swope Park/Cottonwood Falls Fairgrounds
Chase State Lake (primitive – Cottonwood Falls)
Council Grove Federal Reservoir

Appendix C: A Comparative Look at Cell Towers

How are cell towers the same as wind turbines? How are they different? Mitigation of visual impacts of cell towers – hiding in silos and church steeples has worked; hiding in fake trees has not. Why wouldn't this work in the case of wind energy – turbines need to turn and they go in places where there is nothing else high on the landscape already.

The Telecommunications Policy Act passed by Congress in 1996 prohibited communities from preventing construction of cell towers or regulating their emissions. This action left states and cities across the country unprepared for the proliferation of towers. However, within the current law communities can require co-location of transmitters on existing structures, such as church steeples or silos, and limit construction in historic areas or other designated special places.

At the regional level, National Scenic Trails organizations have worked with the telecommunications industry on siting agreements with mixed results as many organizations lack the technical capacity to properly implement the necessary agreements. There are, however, a few examples of strong policies in Cape Cod, Massachusetts, Golden, Colorado, and Albemarle County, Virginia.



FERMATA, Inc.
PO Box 5485, Austin, TX 78763
512.472.0052, www.fermatainc.com



Kansas Wind Energy

Wind Projects

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Kansas Wind Projects

NEW! [Map of Existing and Proposed wind projects in Kansas](#) (PDF-1.2 Mb), Source: Kansas Energy Council, Jan. 2005.

British Pastures Wind Project

Riley County, Kansas - A proposed project of Orion Energy of Oakland, CA. The project will be located in SE Riley County. There is a moratorium on wind farm applications in Riley County through Oct. 7, 2004.

Caney River Wind Project

Elk County, Kansas - A project of TradeWind Energy of Lenexa, KS. Few details of this project have been reported. It's not expected that this project will be built during 2005.

Chase County Wind Project

Chase County, Kansas - A project of FPL Energy of Juno Beach, FL. Few details of the project were reported, though the project was to be built in Southern Chase County as early as Fall 2004. See the September 2 newspaper article in the Chase County Leader-News (PDF - 1.7 MB) for more. The Oct. 4 *Wichita Eagle* reported that FPL has shelved the plans for this project for now.

Cloud County Wind Project

Cloud County, Kansas - A proposed project of Zilkha Renewable Energy of Houston, Texas. The proposed project will involve 59 landowners in a 100- to 150-megawatt wind farm on 20,000-plus acres in the southeastern part of the county. The County Commission has approved a development agreement with Zilkha.

- Kansans weigh wind energy merits (*Lawrence Journal-World*, Jan. 9, 2004)
- County board approves draft of wind energy agreement (*Concordia Blade-Empire*, Oct. 1, 2003)
- Commission discusses wind farm (*Concordia Blade-Empire*, Sept. 24, 2003)
- Commission hears presentation on wind energy (*Concordia Blade-Empire*, Sept. 4, 2003)

[About K.E.I.N.](#)
[Contact](#)

Gray County Wind Farm

Gray County, Kansas - A wind farm that was erected near the town of Montezuma by FPL Energy in 2001. It produces 110 MW of electricity from 173 Vestas V-47 wind turbines.

- Pictures of Gray Co. Wind Farm - As seen from Cimarron, Kansas
- Pictures of Gray Co. Wind Farm - from the Kansas Geological Survey
- News articles about Gray Co. Wind Farm, KEIN

Leon Wind Project

Butler County, Kansas - A proposed joint project of Kansas Wind Power LLC (now TradeWind Energy), a Kansas-based company with offices in Lawrence and Overland Park, and Padoma Wind Power of La Jolla, CA. The plan was for 68 wind turbines to be located 3.5 miles south of Leon, 30 miles east of Wichita. Butler County Planning Commission approved the project 6-0. The County Commission denied permission for this project, 4-1. A lawsuit has been filed to challenge this decision.

- Butler Co. to hear another wind farm proposal
(*Wichita Eagle*, November 25, 2002)

Municipalities Wind Project

Several Towns - A project proposed by Kansas Wind Power LLC (now TradeWind Energy), where ten or more municipalities would have a relatively small number of wind turbines (10-20), rather than one huge wind farm. By "spreading the wealth", multiple small projects can achieve the same scale of economy as a larger project, but without the limitations of transmission constraints. Cities and towns that have been approached (as reported in local newspapers) include Anthony, Augusta, Coffeyville, Greensburg, Herington, Hoisington, Larned, La Crosse, Lincoln, Russell, and Winfield. See the TradeWind Energy web-site for more info.

- Site picked for wind farm near Winfield
(*Winfield Courier*, Jan. 24, 2004)

Munkers Creek Windfarm

Wabaunsee & Morris Counties, Kansas - A 100-200 MW project proposed by JW Prairie Windpower LLC near Alta Vista. The Wabaunsee County Commission issued a decision on June 28, 2004 that effectively will not allow the construction of wind farms in the county.

Rosalia Wind Project

Butler County, Kansas - A proposed 73 turbine project of Zilkha Renewable Energy to be located East of Rosalia, on either side of US-54. The project proposal was withdrawn and is currently on hold.

- Rosalia project visual simulations

Spearville Wind Project

Ford County, Kansas - A proposed project of EnXco that would be 100+ MW in size,

located north of Hwy 50/56 near Spearville. The Ford Co. Zoning Board *approved* the project 5-0 on August 25. The Ford County Commission unanimously approved a conditional use permit and development plan for the project on September 15, 2003.

Sunflower Electric Wind Farm

Wichita County, Kansas - A proposed 60-75 turbine project of Renewable Energy Systems and Sunflower Electric Power Corp. to be built near Leoti.

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The Kansas Energy Information Network is not responsible for the content on external web-sites.

Comments to whites@kgs.ku.edu

Last modified: 02/28/2005

The current URL is www.kansasenergy.org/wind_projects.htm



Deer Creek Wind Project

Anderson County, Kansas - A 200 MW proposed project of TradeWind Energy of Lenexa, KS. Few details of this project have been reported. It's not expected that this project will be built during 2005.

Elk River Wind Project

Butler County, Kansas - A proposed project of Elk River Wind Farm LLC of Larkspur, CA. HMH Energy Resources of Larkspur, Calif. and Greenlight Energy, Inc. of Charlottesville, Virginia are co-developers of the project. The project will consist of 100 1.5 MW wind turbines and be located South of Beaumont. The Butler County Planning Commission approved the project 5-2 at their Jan. 7, 2003 meeting. The Butler County Commission approved the project, 3-2, at their Jan. 28 meeting. On Nov. 24, 2003, a judge ordered a new vote on the project after throwing out the County Commission's previous decision. On Dec. 16, 2003 the Commission took another vote and approved the project 3-2.

On Dec. 13, 2004, it was announced that Empire District Electric utility of Joplin, MO, had contracted with PPM Energy, Inc. to buy 150 MW of electricity from Elk River. PPM Energy of Portland, OR will own and operate the wind farm after purchasing the project from Greenlight Energy.

- Butler Co. wind farm moves ahead
(*Wichita Eagle*, December 16, 2004)

Elk River II Wind Project

Cowley and Elk Counties, Kansas - A proposed project of Greenlight Energy, Inc. of Charlottesville, Virginia. The project could have as many as 167 wind turbines generating from 200-250 MW of electricity. Two-thirds of the turbines are planned for Cowley County and will be located in the Northeast corner of the county. Both Cowley and Elk Counties are unzoned.

~~NEW~~ *Sherman County Community Wind Project*

Sherman County, Kansas - ReNewable Energy Resources, a wind energy development company out of Tennessee, announced in Feb. 2005, that they would build a 10-turbine, 6 MW wind project 10 miles southwest of Goodland. The project is scheduled to break ground in April 2005 and be completed within 80 days. The City of Goodland will purchase some of the power and a group of irrigators will purchase the rest.

- Wind towers to generate power (PDF)

Smoky Hills Wind Farm

Ellsworth/Lincoln Counties, Kansas - A proposed project of Lenexa-based Kansas Wind Power LLC (now TradeWind Energy) will be located on the Ellsworth-Lincoln County line. The project will involve nearly 20,000 acres, 120 to 170 turbines each capable of producing from 1½ to 2 megawatts each. The total size of the project will be between 150-250 MW and is set to begin construction in early 2005.

- Kansas wind developer details up to 310 MW - from TradeWind web-site and Platts' Megawatt Daily, Dec. 2003

THE STATE CORPORATION COMMISSION
OF THE STATE OF KANSAS

Before Commissioners: Brian J. Moline, Chair
Robert E. Krehbiel, Commissioner
Michael E. Moffet, Commissioner

In the Matter of the Application of Elk River Windfarm, LLC) Docket No.
for a Certificate of Public Convenience to Transact the) 05-ERWE-499-COC
Business of an Electric Public Utility in the State of Kansas.)

CERTIFICATE

NOW, there comes on for consideration and determination by the State Corporation Commission, of the State of Kansas (Commission) the application of Elk River Windfarm, LLC (Applicant) as captioned above, for a Limited Certificate of Convenience and Necessity to construct and operate a wind power project (project) in a portion of Butler County. After giving due consideration to the application and being fully advised in the premises, the Commission finds and concludes that:

1. Although the project planned by Applicant is qualified for exemption under K.S.A. 66-104(e), Applicant, at its option, seeks a limited certificate to operate as an electric public utility.
2. The application in the instant docket was filed with this Commission on the 2nd day of December 2004. There have been no interventions. A public hearing was not held on the instant application.
3. Applicant seeks a limited certificate in this application to operate a wind power project in Butler County near Beaumont, Kansas. The project consists of approximately 100 wind turbines and attendant electric facilities as described and shown on maps and exhibits attached to the application. Applicant requests authority to sell at wholesale the output of electric energy from the project to Empire District Electric Company (Empire). Applicant states it has no current plans to offer retail electric service in Kansas.

4. Applicant requests a limited certificate to transact the business of an electric public utility in the territory and to the extent described as follows:

The property is all of the following tracts or parcels of land, situated in the County of Butler, State of Kansas, more particularly described as follows:

BUTLER COUNTY

- The East 1/2 of Section 32, Township 28 South, Range 8 East;
- All of Section 33, Township 28 South, Range 8 East;
- All of Section 4, Township 29 South, Range 8 East;
- All of Section 5, Township 29 South, Range 8 East;
- The East 1/2 of the Northeast 1/4 and the East 1/2 of the Southeast 1/4 of Section 16, Township 28 South, Range 8 East;
- The South 1/2 of the Southeast 1/4 of Section 29, Township 28 South, Range 8 East;
- All of Section 21, Township 28 South, Range 8 East;
- All of Section 28, Township 28 South, Range 8 East;
- The Southeast 1/4 of Section 17, Township 28 South, Range 8 East;
- Lots fifteen (15), sixteen (16), seventeen (17) and eighteen (18) of Section 31, Township 28 South, Range 8 East;
- Lots one (1), two (2), three (3), four (4) and eighteen (18) of Section 6, Township 29 South, Range 8 East;
- The South 1/2 of the Northeast 1/4 and the Southeast 1/4 of Section 6, Township 29 South, Range 8 East;
- The East 1/2 and Lots one (1), two (2), fifteen (15), sixteen (16), seventeen (17) and eighteen (18) of Section 19, Township 28 South, Range 8 East;
- The Southeast 1/4 of Section 18, Township 28 South, Range 8 East;
- The Southwest 1/4 of Section 17, Township 28 South, Range 8 East;
- All of Section 20, Township 28 South, Range 8 East;
- All of Section 29 (less the South 1/2 of the Southeast 1/4), Township 28 South, Range 8 East;
- The West 1/2 of Section 32, Township 28 South, Range 8 East;
- The East 1/5 of Section 30, Township 28 South, Range 8 East; and
- The East 1/5 of Section 31, Township 28 South, Range 8 East.

In addition, Applicant requests transmission rights only in and along the two optional routes for a 345 KV electric transmission line and other attendant facilities necessary to connect the wind power project with a nearby Kansas Gas and Electric Company 345 KV electric transmission line shown on maps marked as Exhibit B-1 and B-2 of the application herein

5. There are two other electric suppliers certificated in the area described in paragraph 4 above. Westar and Butler have been provided notice of this application and have filed no objection.

6. Increased electricity production would enhance the availability and affordability of power to the benefit of the Kansas public generally. Interconnection with the Kansas electric grid is necessary to achieve such benefit. The issuance of the certificate, including the authorities and obligations associated with it would serve the public convenience and necessity.

7. Because the public convenience will be promoted by permitting Applicant to transact the business of an electric wind power generation utility in the territory and to the extent described in previous findings herein, the application should be granted and a limited certificate issued in accordance with the provisions of K.S.A. 66-131.

IT IS, THEREFORE, BY THE COMMISSION CONSIDERED AND CERTIFIED:

That the application in the instant docket is granted and Elk River Windfarm, LLC is permitted to transact the business of an electric wind power generation utility in the territory described in paragraph 4 above.

A party may file a petition for reconsideration of this order within 15 days of service. If the order is mailed, service is made upon mailing and three (3) days are added to the above time period.

The Commission retains jurisdiction of the subject matter and parties for the purpose of entering such further order or orders as it may deem necessary.

BY THE COMMISSION IT IS SO ORDERED AND CERTIFICATED.

Dated: **DEC 20 2004**

Moline, Chair; Krehbiel, Com.; Moffet, Com.

ORDER MAILED

DEC 21 2004

 Executive Director
EXECUTIVE DIRECTOR

SEAL

GDD:ram

THE SCALE OF WIND POWER

1,650 kW

500 kW

Bergey Excel 10kW

397'

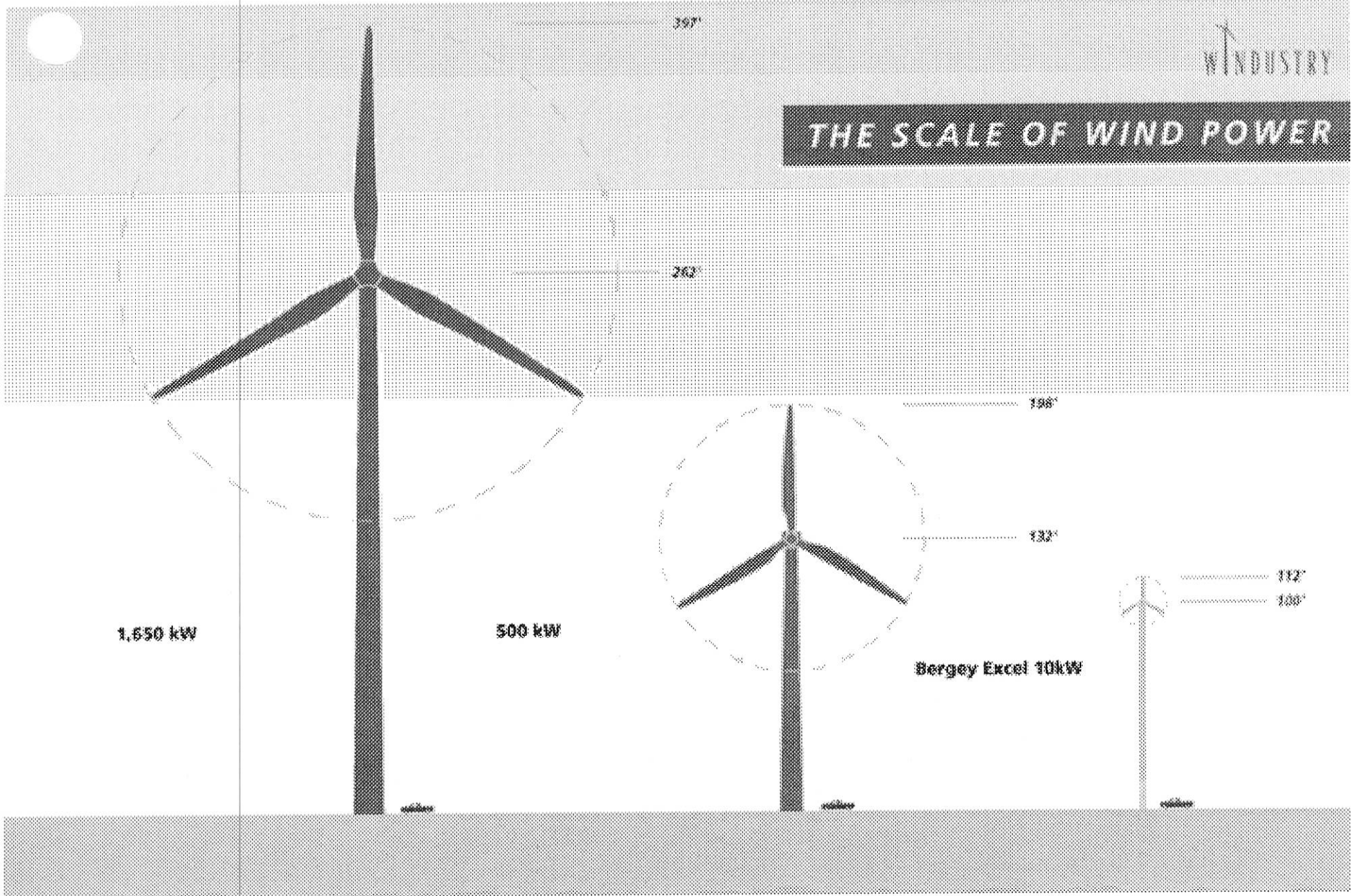
262'

198'

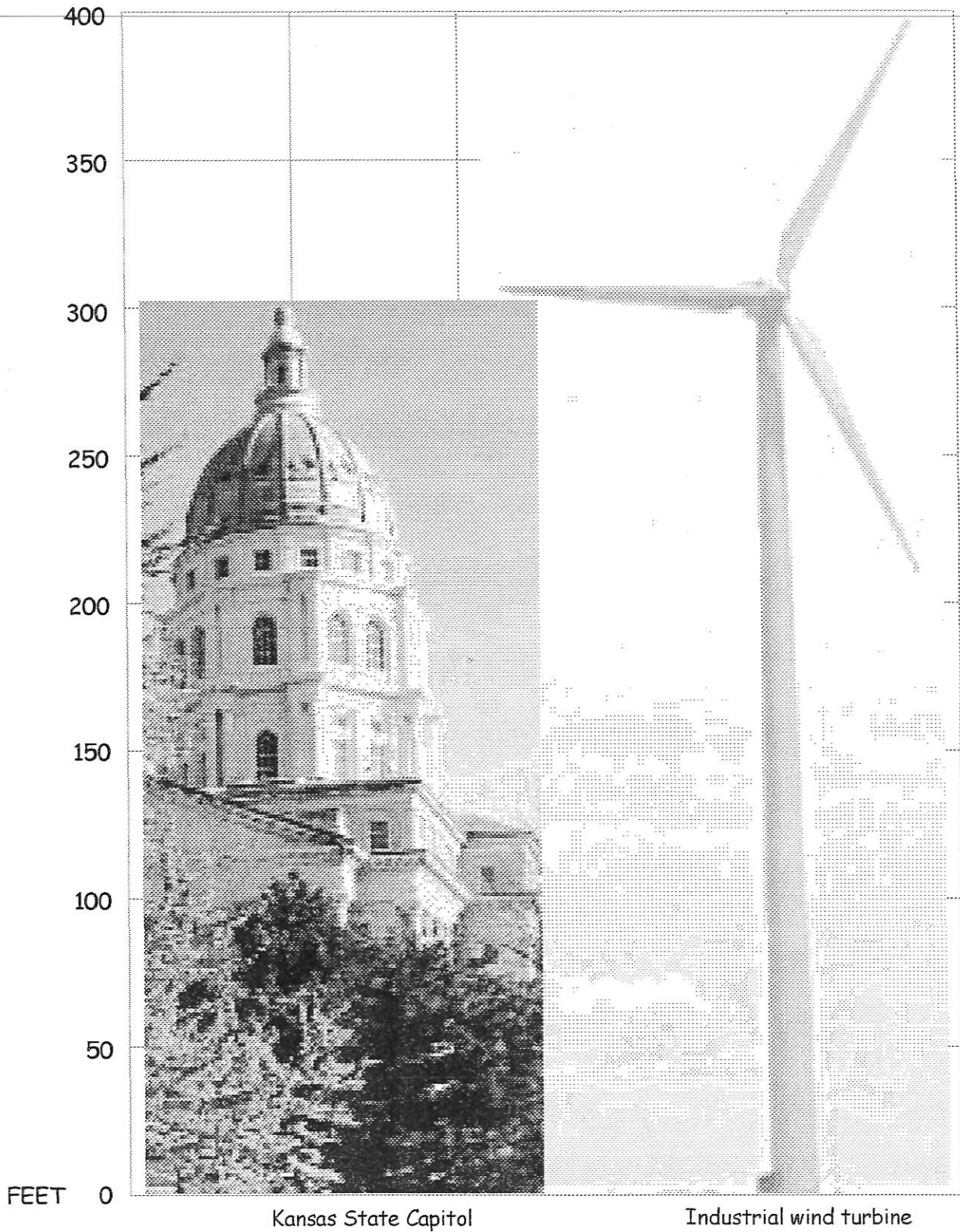
133'

112'

100'



PERSPECTIVE ON VISUAL IMPACT: Relative Height



Testimony on Senate Bill 280 presented to
The Honorable Barbara Allen, Chairperson, and
Members of the Senate Assessment and Taxation Committee
March 8, 2005

My name is Virgil Huseman. My family and I ranch and farm north and east of Ellsworth in Ellsworth County. We're about 30 miles west of Salina on Interstate 70 in what is known as the Smoky Hills.

We are a full time family ranching and farming operation with no other source of income. My family has farmed and ranched in this area for three generations. We are not "hobby" farmers. We have joined with our neighbors, farmers and ranchers much like ourselves, to oppose industrial wind development in our community.

We applaud the efforts of the Governor and S.B. 280 for carving out a section of the Flint Hills and recognizing that so called wind farms are not appropriate in some places. We only wish the area would be larger and include the Smoky Hills.

The unbelievably large financial incentives to industrial wind developers proposed by S.B. 280 are the reason for our opposition to the bill. It is our understanding that a single 150 M W wind project could receive refunds and tax credits from the State of Kansas totaling about \$7,000,000 for each of 10 years (\$70 million total) just from Section 1 of S.B. 280. An accelerated depreciation schedule already in place further reduces federal corporate tax liability by fully depreciating any capital investments over just a few years.

These huge financial incentives have unleashed wind development companies all around our state. The result will be devastating to our beautiful rolling prairie hills and open spaces. Many counties, such as Ellsworth, have no zoning regulations. Most counties are ill equipped to deal with the inevitable controversy surrounding these mammoth projects that will change the landscape forever.

So here is the result. We have companies running all over the state of Kansas leasing up potential sites for industrial wind turbines.

- 1) There are no siting guidelines.
- 2) There are no rules or regulations from any government agency, local, state, or federal, charged with oversight of wind energy developments.
- 3) They have, or can easily be granted the right of eminent domain.
- 4) They pay no local property taxes.
- 5) They receive huge tax incentives (a single 150 mw, 100 turbine project, could receive at least \$70 million from Section 1 of S. B. 280).
- 6) Consumer's utility bills go up because wind generated electricity in, most cases, is more expensive.
- 7) We destroy some really beautiful places in Kansas.

All of this for a little bit of expensive, intermittent (the wind doesn't blow all the time) unpredictable (we don't know when the wind will blow) energy.

If the Governor's goal of 1,000 mw of wind energy is realized in Kansas, state tax refunds or credits to wind developers could amount to as much as \$45,500, 000 per year just from Section 1 of S.B. 280.

We urge you to recommend S.B. 280 unfavorably. Thank you for allowing us to present our views.

Virgil Huseman
Ellsworth, Kansas

2005 Kansas Legislative Session
Senate Assessment and Taxation Committee
Senator Barbara Allen, Chair
Tuesday, March 8, 2005

Testimony Opposing SB280

Suzan Barnes, Proprietor
Grand Central Hotel
Cottonwood Falls, Kansas
620-273-6763

Dear Senator Allen and Committee Members, my name is Suzan Barnes. I am the owner of a business in Chase County, specifically Cottonwood Falls, that relies primarily on tourism. I have The Grand Central Hotel and Grill – just starting our tenth year. I have been in the travel and hospitality business for over 35 years, first as a travel agent concentrating on “outbound” travel and now as a hotel and restaurant owner relying on “inbound” travel. Inbound travel is somewhat new for Kansas. As testimony, our state Travel and Tourism Division recently partnered with an agri-marketing company to help the state develop a sustainable agritourism plan; and all over the state, we’re cashing in on our cowboy heritage. In addition, more than half of the 1200-mile route of the Santa Fe Trail lies within the boundaries of Kansas.

I grew up in the Flint Hills. I have always felt the region’s beauty. So, when I started The Grand Central Hotel in 1995, there were some that thought it wouldn’t work. Why would anyone want to come to a small town and start a business? But I knew it would work, primarily because of corporate demand for getting away from the chrome and glass meeting rooms in the cities – and for the fact that we no longer LIVE TO WORK. WE NOW WORK TO LIVE. As you know from growing up, your parents saved for years to take a once-in-a-lifetime trip. Travel was a luxury. Now, it is a given. People work hard and want to escape on the weekends to unknown places – places not like where they are from – places that don’t look like their neighborhoods. We need getaways. We need to feel PLACE and not placement....a sense of discovery. A sense that no one was here before me. For many, The Flint Hills is the answer....*even* the most remote corners of our counties. We have become a destination, not just for Kansans but for people from all over the world. We are not just a destination for travel, either. Increasingly, Americans are saying that the place they live is as important as what they do for a living, so much so that they are willing to relocate to a “better” community, even at the risk of diminished job opportunity or income.

So we wonder what this means to the Flint Hills? To start with, The Kansas Department of Transportation’s Scenic Byway Program chose the 45-mile corridor between Cassoday in Butler County and Council Grove in Morris County as the number one most scenic drive in Kansas. Thus, it became the pilot program for Scenic Byways. Between 1993 and 1998, tourism in Butler County increased by 173%, in Chase County by 2,017%, and 234% in Morris County, and has continued to increase annually. These tourism economic impact figures are in part due to the beauty of our Flint Hills. In fact, the motto of the Flint Hills Scenic Byway is “see it like it is and leave it like it is.”

Obviously, tourism in The Flint Hills has had a direct economic impact on businesses. There are communities that have been involved in tourism for some time now – there are communities that are new at it. Regardless, we are all directly involved in people fulfilling dreams. For many, their dream came from driving the turnpike from Wichita to Topeka, dreaming of riding a horse across those beautiful hills. Others dream of getting off the beaten path on a wagon train and watching our glorious sunsets or attending a chuckwagon dinner and sing-a-long. Through tourism, we fulfill these dreams. We remind them to listen to the quiet, gaining a little respite for their souls. Some are tourists and some are adventurous travelers. Regardless, they love the Flint Hills. They tell us that they want the Flint Hills as they are today, as their last

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frontier close by. By supporting this resolution, we could begin the process of offering our Flint Hills as a national treasure.

Mr. Ted Eubanks of Fermata, Inc., a national tourism consultant, speaks often on the economic impact of tourism in the Flint Hills. He has offered a study recently released from The Blue Ridge Parkway in North Carolina. He states, "This is one of the few surveys that actually can be applied, if only generally, to The Flint Hills and other scenic regions of Kansas." This survey highlights the economic importance of The Blue Ridge Parkway in North Carolina. In dollar terms, the scenic views along the Blue Ridge Parkway are worth upwards of \$5 billion a year to the visitors who enjoy them, and preserving the integrity of these views would net the state's tourism economy hundreds of millions of dollars annually. That is according to the 2002 North Carolina Scenic Experience Survey of 640 visitors to discover what value visitors place on viewing scenes along the parkway.

According to the research team, visitors attach annual values of \$468-519 per person to experiencing the views along the parkway. This represents the cash value that visitors indicated would justly compensate them for the loss of the experience of viewing the scenery. Statistically, about ¼ of the respondents said they would decrease their visits if the scenic quality declines, with a potential loss of revenue of over \$3 billion to adjacent communities. If scenic quality stays the same, 88% of the respondents said they would increase the number of times they visit each year. Respondents reported spending an average of \$170/day/visitor. So, more frequent visits would generate more dollars. The study found that just because visitors don't directly pay for the scenic beauty of the region doesn't mean that they have no value for it and that what visitors are taking home in their minds is as valuable as what they are spending in the communities while there.

In essence, policies promoting preservation through tourism do not hinder economic growth and development. In fact, they often advance it. The American traveler values individuality, merit, diversity and openness. Mr. Eubanks cites statistics from The International Ecotourism Society Newsletter – "In addition to enjoying great scenic beauty and outdoor activities, eco- and agri-tourists like to learn about local indigenous peoples and their cultures. Authentic crafts, and craft-making demonstrations combined with credible cultural performances heighten the tourist experience and increase sensitivity and tolerance for foreign cultures and lifestyles."

Further, Mr. Eubanks states that Kansans need to define our "zone of influence" – our turf – our flint hills. What are our natural, cultural and historical influences? Kansas has the Flint Hills. This is our Grand Canyon, our Shenandoah Valley, our Blue Ridge Parkway. Currently, Mr. Eubanks is working closely with

According to Deborah Divine of the Kansas Scenic Byway Program, a recent national tourism survey found that travelers are making more trips of shorter duration, with concerns for safety and the environment. In addition, some of the most important travel interests are nature, heritage, and outdoor travel. Nature, Heritage, Outdoor. Three important travel interests. Globally, nature travel has been growing at an annual rate of 10-30%. These people are environmentally sensitive, want to see and experience nature and want to explore pristine and relatively untouched places. So we know that there is a strong connection between tourism and the environment.

We also know that eco-tourism and agri-tourism have three goals – economic development, preservation, and education. Agritourism efforts are grounded in a community's pride in its history and traditions. Preserving the integrity of the landscape, local stories, and understanding of our area can and will define who we are. We know that these travelers spend more money, stay longer, and come back more often.

Over the past ten years, Chase County tourism has grown without destroying the character of our community. This is due to careful planning and recognizing our zone of influence. Successful small communities can craft economic development policies around their distinctive assets like the Flint Hills.

We are just getting started with economic survival through tourism. Although we aren't there yet, we have the GOLDEN OPPORTUNITY not afforded other states to do it right – to do so much by doing so very little. THE MORE A COMMUNITY COMES TO RESEMBLE “ANYPLACE, USA” THE LESS REASON THERE WILL BE TO VISIT. We have the honor of living in a place that is not like anywhere else. We want everyone to enjoy us as we are today.

I urge you to oppose Senate Bill Number 280. If passed, this will allow the beginning of the ruination of one of Kansas' true treasures. We as Kansans need the opportunity to have a key destination in our state. We need to truly protect our Flint Hills from industrial development AND stop unnecessary spending via backdoor taxation of Kansas citizens.

Respectfully submitted
Suzan Barnes
Grand Central Hotel
Cottonwood Falls, Kansas

Phil Epp

Newton

“My paintings of the Flint Hills emphasize the open spaces, big sky and distant views. Human scale is diminished in this vast landscape, and painted images seem best portrayed when focusing on the faraway.”

Phil taught art in the Newton public schools from 1974 through 2003 and has been active in the state and regional art scene. His paintings and prints have been in many exhibits such as “Remembering the Family Farm” in 2001 at the Spencer Museum of Art in Lawrence. In 2000, he collaborated with two ceramic artists to produce “Blue Sky Mural,” a 20' × 33' sculpture/mural in Newton. He was named the Kansas Governor’s Artist in 1986. He and his paintings were featured in the promotion of Kansas at Bloomingdale’s in New York City in 1988.

Flint Hill Mustangs

Oil on canvas

69" × 51½"



March 8, 2005

**To the Senate Assessment & Taxation Committee
Statement in Opposition to
Senate Bill 280**

**Ron Klataske
Executive Director, Audubon of Kansas
Manhattan, Kansas**

Senator Allen and members of the Committee, I greatly appreciate the opportunity to present a statement on behalf of approximately 5,000 families that are members of Audubon in Kansas and other residents that we have worked very closely with in recent years to protect the Flint Hills from destructive projects fueled with tax subsidizes and direct tax credits.

Approximately 96 percent of North America's tallgrass prairie has been plowed, paved or eliminated in other ways. Approximately two-thirds of the remaining tallgrass prairie, and almost all of the intact tallgrass landscapes that remain are located in the Flint Hills of Kansas and Oklahoma. Conservation of these resources should be a national and state priority worthy of public investment in partnership with private landowners devoted to stewardship.

However, the most immediate and destructive threat to native prairie landscapes is now created by federal tax credits and permanent property tax exemptions in Kansas. The huge federal tax giveaway, the five-year double declining balance accelerated depreciation, the Kansas property tax exemption and the absence of any siting standards in the state on industrial windpower development projects have already resulted in an Oklahoma style "Land Rush" by speculators.

As we have seen in several areas the developers and venture capitalists, mostly from distant states and foreign countries, have little interest in our state and are willing to arrogantly ignore other natural, cultural, historic and scenic resources of value to Kansas residents and the State of Kansas. They hire lobbyists to oppose much needed siting standards, oppose restrictions on the use of eminent domain, and oppose restoration of property taxes as paid by other utilities and other corporate citizens of the state. This is surely not the way that "environmentally friendly", "green energy" is intended to work.

It is incredible that anyone with an interest in stewardship of our state's financial and natural resources would propose siphoning additional tens of millions of dollars from taxpayers to make direct payments to companies that will be transferring most of the resulting wealth to other venues. That is likely to happen if Senate Bill 280 is approved.

There are many other more worthy investment opportunities. At a time when Kansas legislative leaders and taxpayers are looking at ways to fund education needs of our state's youth, it is baffling to think that tens of millions of state dollars would be offered annually to speculators

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who will erect industrial windpower projects that will be exempt from all state and local property taxes.

Without implementation and observance of a system of state Siting Standards (requirements) it appears unlikely that most of the projects now being promoted will be “environmentally friendly”, notwithstanding the fact that we have no major problem with the Montezuma project built by FPL in southwest Kansas. Greenlight Energy, Inc., PPM Energy, Inc. a subsidiary of Scottish Power, PLC, and the Empire District Electric Company of Joplin, Missouri have all demonstrated that they are disinterested in protecting the spectacular native prairies in the southern part of the Flint Hills--as pictured on the PROTECT THE FLINT HILLS poster provided. That photo was taken in the vicinity of the proposed project.

It is inconceivable that the Empire District Electric Company would pursue a project of this nature in Missouri where only 1 percent of that state's native prairies remain. The largest remaining expanse of approximately 4,000 acres is located within the Prairie State Park north of Joplin and it attracts 70,000 visitors annually. The Elk River Project near Beaumont will adversely impact 8,000 acres of Kansas prairie., and Greenlight proposes to expand over an additional 30,000 acres.

With one exception, the non governmental organizations in Kansas devoted to wildlife conservation and environmental protection are solidly opposed to industrial windpower development of the Flint Hills, or siting of projects on intact native prairie landscapes and critical wildlife habitats. The conservation community that stands together on this issue and the others striving to protect prairie resources in Kansas value the vital contribution that many private landowners have made to stewardship of native rangelands, wildlife and other prairie resources.

Our value system is based on the fact that the presence of ranch families in these hills, their stewardship and that of most other landowners, adds dimensions of value to this unique landscape. Steve and Jacque Sundgren, John Hund, Virgil Huseman and Margy Stewart on the panel this morning exemplify the commitment of many to a land ethic that would make Aldo Leopold proud.

It is ironic that even one environmental organization that would fight to save public lands and places like the Grand Canyon and even one windpower developer that would never think of developing the windy North Rim would promote development in the Kansas Flint Hills and privately owned native prairies as if they have no other values.

As Walt Whitman observed and elegantly wrote in 1879: “While I know the standard claim is that Yosemite, Niagara Fall, the Upper Yellowstone and the like afford the greatest natural shows, I am not so sure but that the Prairies and Plains last longer, fill the esthetic sense fuller, precede all the rest and make North American's characteristic landscape.”



KANSAS WILDLIFE
FEDERATION

The voice of outdoor Kansas

**Testimony Prepared for the Senate Assessment and Taxation Committee
In Opposition to SB 280**

March 8, 2005

The Kansas Wildlife Federation stands in opposition to SB 280, which would create additional tax incentives for commercial wind power installations.

KWF originally became interested in the issue of commercial wind power as it related to the Flint Hills, the last example of the tallgrass prairie landscape left in North America.

Since that time, we've discovered that there's a lot more to the issue than just prairie. A few bullet points:

- Wind turbine installations inhibit the successful nesting of prairie-chickens, an emblem of the Great Plains. Kansas has one of America's last huntable-sized prairie-chicken populations.¹
- Commercial wind energy installations don't just threaten tallgrass prairie, they are a hazard to intact native grasslands throughout Kansas, including the large remaining stretches shortgrass and mixed-grass prairie.²
- Wind energy installations don't just harm prairie-chickens, they also pose a hazard to other species, especially bats, hawks, and other animals.³
- Commercial wind complexes are often billed as a way to either address global warming or reduce America's dependence on foreign oil. They are actually inefficient means of accomplishing either goal.⁴
- Wind complexes have an effect on the people who live around them.⁵

Put together, these would be compelling enough reasons for the state to not apply further governmental incentives for wind energy systems. Wind energy already enjoys both state and federal incentives, and for some reason

However, our most stringent objection to any further assistance from government for commercial wind energy comes from the lack of oversight. Essentially, taxpayers are paying to make wind energy possible, but have no corresponding say as to how the projects should be situated, run, or disassembled at the end of their useful lives.

For all of these reasons, KWF would offer an amendment to SB 280, which would be to amend HB 2460 to this bill. HB 2460 creates real oversight for the installation of wind energy complexes in Kansas, and addresses both the wildlife impacts and the affect these complexes have on humans.

The Kansas Wildlife Federation urges you to act for both the wildlife and people who will have to live with the results of commercial wind energy and either reject SB 280 entirely or amend it and provide accountability to the taxpayers for projects they would be helping to fund.

¹ Source: Wildlife Management Institute, citing Dr. Robert Robel's work on the impact of wind turbines on prairie-chicken nesting. Dr. Robel is a biologist and professor emeritus with Kansas State University with decades of work in Kansas' upland birds.

² Wind turbines have also been discussed for the areas around Great Bend and the Smoky Hills.

³ See "Wind turbines decimate bats" from the January 2, 2005 issue of the Wichita Eagle. Also see "Judge OKs wind-farm suit" from the February 22, 2005 Oakland Tribune, discussing impacts of Bay Area projects on raptors and other migratory birds.

⁴ See "Experts show official wind power claims are hot air" from the February 27, 2005 edition of the Scotsman.

⁵ Many experiences go before us, two in particular are the wind projects cited by Kewaunee County, Wisconsin and the experiences cited by Eleanor Tillinghast in her article, "The Dark Side of Wind Power."

Kansas.com

Posted on Sun, Jan. 02, 2005

Wind turbines decimate bats

Thousands of the flying mammals are being killed by whirling blades at sites in West Virginia and

Pennsylvania.

BY JUSTIN BLUM
Washington Post

WASHINGTON - Jessica Kerns thought her survey of new power-generating wind turbines on a mountaintop in West Virginia would yield the standard result: a smattering of dead birds that were whacked by the whirring blades.

But the University of Maryland doctoral student turned up something unexpected amid the trees and rolling ridges of Backbone Mountain: hundreds of bat carcasses, some with battered wings and bloodied faces. "It was really a shock," Kerns said.

Thousands of bats have died at Backbone and on another nearby wind farm in Meyersdale, Pa. --more per turbine than at any other wind facility in the world, according to researchers' estimates. The deaths are raising concerns about the impact of hundreds more turbines planned in the East, including some in western Maryland, as the wind industry steps up expansion beyond its traditional areas in the West and Great Plains.

The bat deaths, which have baffled researchers, pose a problem for an industry that sells itself as an environmentally friendly alternative to conventional power plants. Wind proponents already have had to battle complaints about bird deaths from the blades and about unsightly turbines marring pristine views.

The bat problem could worsen, conservationists fear, as wind developers rush to erect new turbines following the recent renewal of a federal tax break for a year. The wind industry, which had been virtually dormant since the last tax break expired a year ago, projects more wind turbines to be built around the country this year than in any previous year. In the areas near where bats have been killed in Pennsylvania and West Virginia, activists said, roughly 700 new turbines have been proposed or approved.

"Take the most conservative estimates of mortality and multiply them out by the number of turbines planned and you get very large, probably unsustainable kill rates," said Merlin Tuttle of Bat Conservation International. "One year from now we could have a gigantic problem."

Bats serve an important role in nature, and their populations are thought to be in decline, scientists said. The bats getting killed in Appalachia devour insects that pose grave threats to crops such as corn and cotton. They also feast on pests that can spread disease, such as mosquitoes.

Researchers do not know why bats are flying into the turbines. Armed with radar and thermal imaging cameras, they are trying to come up with recommendations for wind power developers to avoid the problem. Researchers are uncertain whether bats are attracted to the spinning blades or if their sonar, which allows them to find food and avoid trees and other objects, fails to detect the turbines.

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<http://www.kansas.com>

Subject: Problems associated with wind turbines

One lesson learned from our experience with the process of the request for locating wind turbines in the Town of Lincoln in Kewaunee County, was never to assume that what the Utilities or their private supporters tell you about the project is accurate.

Problems that are of strong concern, and problems that we had warned the utilities about but were assured that they would not occur are as follows: interference with T V reception, Microwave reception interference, depreciating property values, flashing red lights (FAA) interfering with nearby homes, wind turbine NOISE which interferes with neighbors sleep and their mental health, increased traffic, road damage, cattle being scared from rotating shadows cascading from the blades in a setting sun, rotating shadows in nearby homes, concerns about stray voltage, concerns about increased lightening strikes, environmental damage to birds, etc. etc. etc. But the proponents for wind energy will dismiss all of these concerns and tell you that they will not occur. **THEY ARE WRONG.** Ask the neighbors who are not property owners reimbursed by the utilities through lease agreements on their property or people who want to lease in the future. They will verify these problems.

This discussion highlights some of the areas of concern with wind turbines in our township of Lincoln in Kewaunee County. We will have to deal with these problems for the number of years that this project lasts. We hope that as these mechanical devices age, that the problems do not grow worse. Too bad our legislators and our Governor who passed ACT 204, did not have the foresight to think about the effect their law will have on the people of Wisconsin who have to

live around these turbines.

Sincerely,

Arlin Monfils

Chairperson, Lincoln Town

Kewaunee County, Wisconsin

TESTIMONY BY JACQUE SUNDGREN

SENATE BILL 280

BEFORE THE
KANSAS SENATE
COMMITTEE ON ASSESSMENT AND TAXATION

March 8, 2005

Around two years ago our family received a phone call from a neighbor asking if we were aware that a wind facility was being proposed next to our family farm. This was the first time we had ever heard about Wind Industry. This site would be the first of many proposed in Butler County. We were lucky that we were able to stop this site, for now, with the help of adjoining landowners that signed protest petitions. This is the only time that the adjoining landowners of proposed wind industry sites would have a chance to stop wind development. As more wind projects were introduced the companies manipulated the sites so the adjoining landowners were not required to be notified or able to use protest petitions.

Most people don't understand the area we live in. The Flint Hills can be amazingly withstanding and fragile at the same time. The land "under fire" supports a vast diversification of plants and wildlife. Without the expanses of the native grasslands much of this will be lost. The wildlife will be the first to suffer and disappear. Fragmentation will change grazing habits of cattle affecting plant populations and the amount of erosion. Roads will divert water in directions not normal for the terrain. It's not easy to drill or blast 18 foot diameter holes 30 feet deep in the Flint Hills without disrupting the infra structure. Then come the transmission lines across adjoining landowners land causing more fragmentation to the landscape. This all to benefit privately owned foreign wind corporations and a handful of landowners with the majority of those being absentee owners.

Our family is the third generation to be in charge of preserving the prairie. My husband learned the rules of conservation from his granddad and dad: protection of the soil, water, wildlife and quality of life, which he is in the process of passing on to our son-in-law. Recently our family was honored with the 2004 Grassland Award given by the Butler County Conservation District for our efforts in preserving the land. I only mention this not for a pat on the back, but to share with you what the award stands for. The award states: Steve & Jacque Sundgren are fulfilling a responsibility to mankind by proper land use and establishment of necessary conservation practices to prevent erosion and maintain the fertility and productivity of the land.

Although future generations may not speak your name, your deeds will be reflected in a greater and better agriculture.

Through our life we are all given the ability to make choices. As stated above future generations may not speak your name, but your deeds will be reflected. The choice you make on Senate Bill 280 will live on if passed. People won't remember the number, but they will remember the destruction of the last of the Tallgrass Prairie and the land that my family has devoted their lives to preserving for our children and yours.

As Senators I ask you to look at who will be the ultimate benefactor from this bill and who will be the loser. This bill will open a floodgate to wind companies destroying a one-of-a-kind area and ignoring the work generation after generation has done to protect the tallgrass prairie. Please vote NO to Senate Bill 280.

Thank you for your time,

Jacque Sundgren
Ph. 620-476-2476
12602 NE 60th
Rosalia, KS 67132

Testimony of Margy Stewart
on SB 280
before the
Senate Assessment and Taxation Committee
March 8, 2005

My name is Margy Stewart, and my husband and I own several hundred acres of native prairie on McDowell Creek in Geary County, in the northern Flint Hills. Five years ago, we started an educational non-profit organization called Prairie Heritage through which we invite youth and adults to hike and camp on our land to learn about the tall grass prairie and the many peoples who have lived on it. Just this past weekend we hosted the McDowell Creek Heritage Tour, organized in conjunction with Geary Co. Convention and Visitors Bureau and the Junction City Arts Council, in honor of the local opening the "Homage to the Flint Hills" art show. The response was tremendous. Many people who live nearby once had a family connection with this area and were glad to be invited to tour again the scenes of their childhood. Also on the tour were new residents to the area, people who had moved here from Canada and Germany and who were astonished at the wonders so close at hand. What a joy it is to share the unmatched beauties of our Flint Hills! And what tremendous potential there is here for economic activity that would honor the land! My husband and I have just purchased the adjoining land, with its native prairie, farmland, and buildings, in order to expand our nature-based tourism activities. The "prosperity through preservation" wave is just beginning to gather itself in the Flint Hills, and we are glad to be at the beginning of what could well become a mighty swell. You can find out more about our operation on our web site, <http://www.prairie-heritage.org>.

Needless to say, the intrusion of industrial wind complexes into the Flint Hills (one developer wants to put 120 30-story tall turbines on the ridgetops just across from us) would destroy what we are trying to do. Our stock in trade is the night sky, the unbroken horizons, the vast calm. You would think we would be supporters of SB280, as we are in the designated "heart of the Flint Hills." And indeed, we do appreciate the thought behind that designation—the desire to preserve some of this irreplaceable landscape. However, I do think as currently written SB280 is very flawed. For one thing, it would allow, even encourage, the defacement of the southern Flint Hills—actually the "Flint Hills' Flint Hills"—as it contains the most pristine and characteristic Flint Hills landscape. And the less there is of the Flint Hills, the less magnetism any one part of it will have. We must converse with the governor and get her to see that the "heart of the Flint Hills" should be defined biologically and ecologically, not by some manmade highway or political concern. For if the southern Flint Hills are not worth saving, what makes the northern Flint Hills so precious? What do the northern Flint Hills have that the southern do not?

The second flaw in SB280 as currently written is that it is an appalling giveaway. Are our schools so well funded that we can afford to subsidize foreign corporations to this extent? And what do we get in return? Our electrical company, Bluestem Electrical Cooperative, published an article in its last magazine detailing the way wind energy

would make our electrical rates rise. Not because there is anything wrong with wind energy per se, but because the current large-scale technology is not yet efficient. The German government has just published a report criticizing the German wind industry and concluding that mega-scale wind energy is not economical—in short, not the “sustainable” energy source they had hoped it would be. What guarantee do we have that if we give our limited resources to this same industry that we will get a different result?

A third flaw in the bill is that it does not recognize that greenspace, too, is a non-renewable resource. There are no regulations in the bill for siting wind turbines in places where the loss of greenspace (or night sky, ridgetop, sunrise, sunset, quiet, tranquility) would not be a problem.

In short, I commend you for considering these complicated questions and recommend that SB280 be sent back to the drawing board. If the flaws are removed, it could be a valuable piece of legislation.

Thank you for your consideration!

Sincerely yours,

Margy Stewart
Bird Runner Wildlife Refuge
4815 Lower McDowell Rd.
Junction City, Ks. 66441

From: Jayne Link <prairiewinds@prodigy.net>
To: <nancyk@senate.state.ks.us>
Date: 3/8/2005 8:30:58 AM
Subject: Senate Bill 280 Testimony for Jayne Link and Dennis Groves

March 8, 2005
Senate Bill 280

My name is Jayne Link, my husband Dennis Groves and I live in a limestone farmhouse that was built in 1883 in rural Geary County. We feel fortunate to live in such a beautiful area that is filled with wildlife, wildflowers, tallgrass and steeped with such a rich history.

After reading Senate Bill 280 I ask you where does the average Kansan benefit from this "Renewable Energy"? This bill offers Millions in tax credits to Developers but we will ultimately foot this bill. As a state, we are already struggling with having a balanced budget and the inability to adequately fund our schools. How can we rationalize cutting back on the Children of Kansas education to subsidize 'green power' sold to the highest bidder to export out of Kansas? Just yesterday 8.9 Million dollars was removed from the education budget to make up for spending deficits.

The risk of fire is real in the Flint Hills. Counties will need to spend Millions for fire and rescue equipment. How many tax dollars will ultimately be spent to maintain the "Rural Volunteer Fire Departments" that will first ones on the spot in the event of a fire caused by a massive 400 foot Industrial Wind Turbine. The Developers say they will provide equipment and training, which remains to be seen.

There are more appropriate places than in the Flint Hills of Kansas to site Industrial Wind Developments. There are more appropriate ways to use tax dollars. Assure all Kansans that there are better ways to use tax dollars and credits than giving their future to the Industrial Wind Turbine Developers.

We are all living the "Last Stand of the Tall Grass Prairie". I am asking that you vote NO on Senate Bill 280

Sincerely,

Jayne Link and Dennis Groves

2825 Lower McDowell Creek Rd.

Manhattan, KS 66502

785-776-5392

Assessment & Taxation
Date 03-08-05
Attachment # 17

Testimony of Rose Z. Bacon
on SB 280
before the
Senate Assessment and Taxation Committee
March 8, 2005

Statement in opposition to SB 280 by Rose Z. Bacon 3/5/05 Member of the Wind & Prairie Task Force

I have asked Carol McDowell to make this statement for me since I cannot attend today's hearing. My husband and I ranch in the Flint Hills SW of Council Grove and we are tending to our business today...land and cattle. We must make fiscally responsible decisions in order to have an operation that is viable. We have to consider long-term ramifications and cost/benefit ratios for our business so that we have a future.

As the Senate Committee on Assessment and Taxation, it is your business to make fiscally responsible decisions for Kansas and for the well being of Kansans so that we can all have a viable future.

Senate Bill 280 is a fiscally irresponsible proposal. In an era when Kansas is having trouble providing finances for sound education of our young people, this bill proposes to give MILLIONS to privately owned foreign corporations in return for a few hundred thousand dollars, and a minimal amount of inefficient, unreliable and expensive energy. Of the comparatively small amount of money that would go to landowners, much of that goes to absentee landowners. I urge you to use your calculators and figure out just how fast these tax credits and rebate checks would add up, and what the ratio is between what Kansas taxpayers would be paying out and what they would be getting in return.

Do you realize that those MILLIONS would be going to wind developers who have to answer to NO Federal or State regulations, no oversight of any kind other than a few counties who have made a few regulations that they have no funds or manpower to enforce? There are NO EPA requirements, NO wildlife or environmental regulations at all. There are a few "Guidelines" that the wind developers themselves helped to write, and are totally ignoring. Some of those *Siting Guidelines for Windpower Projects in Kansas* drawn up by the Kansas Renewable Energy Working Group include not siting wind projects in native grassland, being open and "transparent" in business dealings, situating developments away from important wildlife movement corridors and staging areas, considering visual impacts, and avoiding sites that require construction on steep slopes. Obtain a copy of the KREWG siting guidelines and read through them. Then look at the picture on the Protect the Flint Hills poster. That IS the area that these MILLIONS in tax credits will help deface.

Do you realize that those MILLIONS would enable the wind developers to trample landowner rights wherever they chose to develop? As the Elk River project proves, the developers can apply for a "certificate of convenience" that gives them utility status and enables them to use eminent domain to go anywhere they want. This "certificate of convenience" process takes two weeks, minimal paperwork, and has NO public hearings, NO public input, and NO recourse for the landowners. In fact, in the Elk River project, the actual land areas impacted were labeled "Confidential", and the landowners were not notified during the process at all.

Do you realize that although SB 280 proposes to have these incentives Not include the "Heart of the Flint Hills" area, there are already plans to propose amendments to include all of Kansas in the incentives?

SB 280 would force Kansas taxpayers and landowners to subsidize the degradation and eminent domain condemnation of their own land. That is simply wrong. This bill is akin to giving a kid stacks of money for the candy store AND giving him the key to the front door, while telling him, "Now be careful and don't overdo it."

My business is land and cattle. As Senators, yours is making fiscally responsible decisions. I urge you to look at the cost/return ratio, and long-term ramifications of this bill. Then vote a resounding NO.

Thank You for your time.

Rose Z. Bacon Ph. 620-767-7048

R K Cattle Co. email > rkcattle @excite.com
1181 Four Mile Road
Council Grove, KS 66846

Assessment & Taxation
Date 03-08-05
Attachment # 18

Opposition to SB 280 and SB 251.....by Rose Z. Bacon

To pay wind developers literally MILLIONS of dollars in tax credits, rapid depreciation and tax exemptions while getting back a few hundred thousand for a FEW local landowners and community is sheer economic irresponsibility. Kansas does not have enough money for education and necessary programs, yet legislators are considering giving millions away to foreign investors who have convinced them there is real energy in wind. Consider that for every Million in benefits given to wind developers, only a small percentage of that money comes back to Kansans. For example, in the Elk River Project in Butler County the wind developers will reap approximately 12 Million in State and Federal Tax Credits, rapid tax depreciation, and tax exemptions per year. In return, they will pay a few landowners, (most of them are absentee landowners), approximately \$300,000.00 a year, and have agreed to "gift" the county with approximately \$250,000.00. **Do the math; that's taxpayers and ratepayers money of \$12 Million going out in return for around \$600,000.00 coming back to Kansas. We will be paying the wind developers to destroy some of our most precious and unique land areas.**

The designated "Heart of the Flint Hills" takes in barely half of the actual Flint Hills, and leaves out other native grasslands of importance such as Cheyenne Bottoms, the Smoky Hills, the Red or Gypsum Hills, and the Quivira National Wildlife Refuge. To lose these ecologically sensitive areas to wind developers would be a crime. Consider what we would be losing in addition to large amounts of taxpayers money.

I can speak to the loss of the Flint Hills because I live and work in them. The Flint Hills comprise the last largest contiguous acreage of Tallgrass Prairie left in the North American Continent. Of the 142 Million acres of original native Tallgrass Prairie, less than 4% is left and two thirds of that is in the Flint Hills of Kansas

But those are numbers and statistics, and while they are important because they show how much we have lost and how much we need to value what we have left, numbers and statistics don't tell you what the Flint Hills really are.

The Flint Hills comprise the sparkling carpets of new fallen snow in the winter, decorated with frosty trees and bushes where everything is painted with a fresh coat of white. The wonderland of winter conceals the rocks and grasses. At the same time, the fresh snow reveals the stories of animal activities that would otherwise be unknown. It's a time of cold arctic blasts of wind when no one can stay warm and ranchers struggle to keep their cattle fed and protected. Interspersed with those bone chilling days are the late winter days when flocks of geese wing their way north while warm winds blow in, thaw the ground, melt the snow, and give us the promise of spring.

The Flint Hills make up the land that goes up in flames each spring in the annual rite of pasture burning. The long snakes of orange flames turn the hills black, making them appear desolate and destroyed to the casual onlooker. But in just few days, and with a

few warm spring rains, the hills are renewed with lush green grass that carpets the land, making it look like a well-manicured park. Tiny spring wild flowers peek through the grass to be followed by an unending variety of flowers in dozens of colors, each in their own season. Wild violets, indigo, wild roses, verbena, primroses, lobelia, purple spike gayfeather, cone flowers and sunflowers all take their turn decorating the prairie.

The Flint Hills are part of the ranching culture that is alive and well in this native prairie. The cattle that graze this native prairie, the ranchers and cowboys that care for them and make their living here comprise a heritage that begin centuries ago and continues today. Well managed ranchland has been part of the State's largest agricultural industry for centuries, ever since the first herds from Texas traveled across these hills and ranchers realized this lush grassland was a treasure for the cattle industry. The ability to both preserve the land while making it productive by good grass management is a very unique and rare aspect of good land management and has been crucial to keeping the Flint Hills as a valuable grass resource unmatched anywhere in the world.

The Flint Hills are the hot dry winds that blow across the open pastures in the summer where cattle graze the native grasses putting on valuable pounds. The prairie is an endless undulating sea of grass that reaches for the horizon and blends with it in blue/green haze. Because of the limestone that gives the soil its high calcium content, the native grass grows strong, enabling it to sink its roots through the few inches of topsoil and deep into the rocky subsoil where they can tap into the water trapped in the layers of rock. The trees lining the creeks in those pastures provide welcome shade and refuge for the deer, bobcats, coyotes, and dozens of other species of wildlife and birds that call this grassland their home. All nature and wildlife is intertwined in this complex ecosystem.

The Flint Hills geology contributes to the quality of water found in this region. The water that has been filtered through layers of limestone and flint, bubbles up in clear springs and cascades down rocky steps into cool streams as pure as any water in the country. The streams and ponds provide homes for native fish and waterfowl that need this country as a refuge. The loons, ducks, and geese that swim on the ponds, the herons that stalk along the water's edge looking for fish, the prairie chickens that boom on the ridge-tops, the red-tailed hawks, turkey vultures, and eagles that soar through the clear blue skies, all need this land of open spaces and vast horizons to survive.

The Flint Hills are the russet and gold-spun hills that glow with the setting sun on late fall afternoons and then cloak themselves in shadows after a fiery sunset. The sumac makes a dramatic red accent for the gold hills in the fall, mixing its fiery red leaves with the yellow of the cottonwood as they drift into the creeks and streams. The nighthawks that soar in the skies during these sunset evenings add the music of their flight to the rustling of the grasses in the wind, the call of the mourning doves, and the plaintive cry of the whip-poor-will. Huge flocks of migrating birds seek the solitude of the pastures and ponds to rest during their long journey south, a vital part of their life cycle.

The Flint Hills are a living textbook of history filled with chapters of Native Americans, their villages, and the reservations. The buffalo wallows of the great bison herds are still evident on the grasslands. The chapters on the history of the first settlers is still visible in the cattle trails, the wagon ruts of the Santa Fe Trail, stone buildings and fences that wind along pastures and roads. The native grasslands, the swirling clouds above the vast horizons, the endless seasons remain as they have been for centuries.

The Flint Hills are truly a unique cultural, ecological, scenic, and historic heritage. They are our inheritance from generations past who valued the land above all else. But more than that, the Flint Hills are the legacy we can leave for the future. Our children and generations yet unborn deserve the chance to experience this natural resource that is unique. Nowhere else in all the world does this particular combination of nature, culture, ecology, vast open spaces and history come together in such a complex combination as we have right here in the Flint Hills of Kansas.

I ask you to take a calculator and actually do the math with cost/benefit ratios of the wind developers proposals. But more important, I ask you to consider what Kansas would be losing that is far more important than money...irreplaceable and unique land.

Vote NO on SB 280 and SB 251 that would force Kansas taxpayers and ratepayers to subsidize the degradation of their own lands by the wind developers.

Thank you for your time and attention.

Kent L. and Rose Z. Bacon	Ranchers
1181 Four Mile Road	Tallgrass Ranchers
Council Grove, KS 66846	Protect the Flint Hills

Ph. 620-767-7048 email>rkcattle@excite.com

Testimony of Pete Cohen
on SB 280
before the
Senate Assessment and Taxation Committee
March 8, 2005

My name is Pete Cohen; I'm a rural resident of Wabaunsee county, and for many years have been a member of the county's Planning Commission. For nearly three years I've been engaged in self-directed research into wind turbines and the various factors involved with them, along with the eighteen months of meetings and formal hearings of the Planning Commission itself. I would like to offer now my response, on that basis, to Senate Bill 280, as to the provisos for extending wind turbine subsidies, and for withholding them. and refer also to 251 because the two seem so integrated, proposing something like a tree with two trunks.

Extending Subsidies

Within the meetings mentioned I've been told two interesting things by developers and/or their engineers.

First: that in order to establish their projects they have to find investors who can make use of the production tax credits that would become available under IRS regulations. That's because the turbines now being promoted cannot produce enough clear income to utilize the federal tax credits that would become available. Thus by buying a participation in the project, investors become entitled to the credits and can apply them against income from other sources. Therefore much or most of the tax credits can be subsidizing already profitable businesses that may have nothing to do with energy production.

And as I read 280 or 251 the same would be possible under Kansas tax credits, except A) finding a buyer wouldn't seem necessary since the State would become the buyer of its own tax credits, and B) under 251 the tax credits would be worth something less because of a tax upon a portion of them. Even with the 251 tax this could cost the state hundreds of thousands to millions of dollars per turbine, so I wonder equally where the funding is to come from, and how such expenditures could be justified, considering what else I was told in those meetings (and not only there), which is—

Second: that actually the best investment of public money would be in conservation. In fact every credentialed person that I've come in contact with has said or agreed that money spent subsidizing more efficient refrigerators, better wiring and lighting, etc., would provide us with many more kilowatt hours than the present technology of turbine can hope to. A case in point can be Calgary, Alberta, where Patrick Lee, in charge of their EnviroSmart program, told me by simply retrofitting their streetlights with hoods to shine all light downward, they were saving half their fuel costs. Besides, conservation improvements give local people things to sell, to generate more taxes.

The turbine arrays buy little locally and employ only a few (about one per 25 towers). The money could also be better spent assisting research into more effective technology, with less need for expensive, energy-eating transmission. Our transportation sector will require this anyway.

That the turbine arrays generate little if any local taxes I think can be shown by the following table of sales tax receipts for six counties.

The first four are similarly sized small-population rural counties.

One, Gray, has 120 turbines erected from May to December in 2001. Note that Gray county had larger sales tax receipts in 2000 the year before of turbine construction, than any time after. I called two newspapers in the county and asked why, but no one could tell me. Tom Hogan, the countys economic development person, thought it was due to some locally originated construction of other kinds.

Another of the four counties, Wabaunsee, has I-70 crossing it. I find evidence that its jump in 2003 is largely the result of home construction near I-70 towns. The other two counties, Ellsworth and Morris just have trunk highways. I've included Finney and Ford counties because they include shopping centers adjacent to Gray. I think the figures show there is no economic imperative to finding further ways to subsidize wind development at this time.

The figures below are x \$1 million.

County	1999	2000	2001	2002	2003	to Oct. 2004
Ellsworth (2.01)	\$1.61	1.83	1.74	1.66	1.80	1.51
Gray 1.33 (1.77)	1.52	1.85	1.77	1.60	1.70	
Morris 1.68 (2.24)	1.82	1.88	1.93	1.85	1.86	
Wabaunsee .86 (1.15)	.96	.99	.97	.91	1.16	
Ford 19.19 14.77 (18.67)		18.22	18.32	18.36	17.60	
Finney (24.29)	23.83	24.41	23.37	22.36	24.54	18.22

Figures to the end of 2004 are not yet available, but if we do a linear extrapolation, 2004 would end with the figures in parentheses.

Withholding Subsidies

Another extremely important part of Senate Bills 251 and 280 is the appearance they seek to give of protecting the Flint Hills by withholding tax credit subsidies for certain counties within the region.

To my view, all that withholding tax credits from a wind turbine array would do is to reduce the array's income. With less income it could use fewer tax credits, so it would have more federal tax credits to sell. I can't see that wind turbine developers would be much swayed by

that situation.

Wabaunsee county, by its zoning regulations, has excluded industrial-sized wind development. I support this, believing that, aside from our agriculture, our greatest resource is our rare, unspoiled ecology and viewsapes: a situation where economics and aesthetics are one and the same. And the only way to protect our resource is to do so directly. Partial measures only provide different routes for spoilation.

And neither the sacrifice of the Flint Hills, nor tax subsidies, will change the facts that what the present wind turbine technology actually provides (called its "capacity factor") is only about a third of the kilowatts their "nameplate capacity" advertises, often when its least needed. And because the arrays' unpredictable output cannot be stored, they require conventional backup and thus provide us with no significant addition of overall energy production capacity.

Added Thoughts on Added Subsidies

In addition to the accelerated (five-year) depreciation that can be claimed for each \$1.5M turbine there is another source of subsidies for renewable energy wind turbines, that I have not found being discussed: green tags.

To understand them, one has to realize that electrical power coming from wind turbines (and other renewables) has two parts: electrons, which are real and go zinging into the grid, and their "green-ness" which is a concept. Or consider a baker who has a cake to sell, and its icing; he can sell them together as one, or separately to different purchasers. The cake is the electrons, the icing is the greenness.

A renewable producer thus can sell his electrons and their green-ness (his cake and icing) onto the grid, in which case he will get market price for the electrons plus the subsidies for the green-ness. Or he can sell just the electrons onto the grid, receiving just market price, and sell the green-ness to other purchasers, who would pay a premium over what the subsidies would bring.

Individuals can buy them. One of the green tag brokers I talked to offered a form which I filled out, and learned that for about \$600 my family could atone for the carbon emissions our use of auto gas, propane, etc. caused for the year.

Businesses buy them so they can advertise they are contributing to green energy.

But the primary buyers are utilities that are under a requirement that they have a certain percentage of renewable-made power in what they sell. This is the RPS, renewable portfolio standard. I contacted three companies (in California, Oregon, and Maine) in the business of brokering them. As described by Fred Horch, of Maine Greenpower Connection, utilities in his purview have a kind of ticker tape arrangement. When the wind is blowing there, they draw in electrons from turbines and can sell the green certificates they have on hand that are not then needed. When the wind drops they immediately have to go into the market to buy enough green credits to keep their mix sufficiently green.

All the while they can keep burning the same coal or gas, the green component they use being all on paper, though wind-generated electrons are put into the grid somewhere.

The theory, as described, is that the money paid for the green input goes to a windpower producer somewhere who can accumulate the money to build more turbines. But there is no requirement that that be done. The money could be used to buy non-energy-producing assets as a hedge, or splurged.

The change in font after the words 'green tags' is my computer's idea, and I can't seem to change its mind. I hope you may find me more

persuasive, and vote No to both 251 and 280. Thank you for your attention.

Pete Cohen
38382 Sycamore Creek Road
Alta Vista, Kansas 66834
(785) 499-6428

2005 Kansas Legislative Session
Senate Assessment & Taxation Committee
Senator Barbara Allen, Chair
Tuesday, March 8, 2005

Testimony Opposing SB 280

Dear Senator Allen and Committee Members:

My name is Christine Crenshaw. I live in Wabaunsee County. I am adamantly opposed to Senate Bill No. 280 for the following reasons:

1.) Section 1.(d) provides for "backdoor taxation" of Kansas citizens by granting refundable tax credits to wind energy enterprises. This is egregious. No one is as good at cooking the books as morality-free corporations (ex. Enron, WorldCom) and enterprises whose financial viability is based on tax policy will not miss an opportunity to gather cash from unsuspecting Kansas taxpayers via state coffers.

2.) Wind energy is costly, inefficient and destructive to the landscape. I have attended many presentations by wind energy promoters and their constant harangue that we are facing an energy crisis is the same kind of fear-mongering infesting America at the federal level. The demand for "energy growth" does not equal "energy crisis". If the Kansas legislature would reward Kansans for conserving energy in their personal and business endeavors, I believe we could conserve more energy than they promise to deliver. **And, it wouldn't require you to tax me in order to pay out of state corporations to tear up our land.**

Two Iowa friends who were energy specialists in the 80's contend that if we Americans practiced the modest conservation of the early 80's we could reduce or avoid growing energy demands. If you want to give money to someone, give it to Kansas taxpayers - your constituents - through energy conservation refundable credits.

You can quickly learn the about wind energy viability by not providing energy credits - the wind energy promoters will slow their rush to install giant towers and turbines. And, if the federal subsidy of tax credits was withdrawn, the energy promoters would walk away. This isn't about providing energy and it sure isn't about the well-being of Kansans. It is about milking the tax system. Well, let them milk some other state.

3.) I returned to Kansas because of the family farm and the family that goes with it. I enjoy Kansas because of the glorious, ancient landscape that is ecologically sound and, with proper management, supports beef production, enhances air and water quality and attracts an increasing number of harried urban and suburban folks who appreciate the vast viewscape. To tear up the Flint Hills or the Smoky Hills or Cheyenne Bottoms so that a few corporations can profit from misguided tax policy is simply shameful.

Respectfully,
Christine Crenshaw
Shamrock Angus Farms
Wabaunsee County
785.456.9247

Assessment & Taxation
Date 03-08-05
Attachment # 20

Statement for the Senate Committee on Assessment & Taxation
Hearing on Senate Bill No. 280
March 8, 2005

Senator Barbara Allen, Chair, and Members of the Committee:

Thank you for this opportunity to comment on Senate Bill No. 280.

My name is Glenn Schleede. I am semi-retired after spending more than 30 years working on energy matters in government and the private sector. During the past four years I have spent a significant amount of my time analyzing and writing about "wind energy," particularly its economic impact on consumers and taxpayers.

This brief statement summarizes a few of the key facts that I have learned and which are described in a detailed report that I will make available to your Committee.¹

First, the wind industry and its advocates have been highly successful during the past decade in misleading the public, media and government officials about the benefits and costs of using wind turbines to produce electricity, particularly its state and local economic benefits.

Second, the wind industry has been so successful in securing tax breaks and other subsidies from the federal, state and local governments that some large, highly profitable organizations *pay No income taxes at all*. They are able to use existing tax breaks for "wind farms" owned by subsidiaries to shelter income from their entire corporate "empire."

In Kansas, "wind farm" owners enjoy both 5-year double declining balance accelerated depreciation deductions from taxable income, AND the exemption from property taxes.

In view of existing federal and Kansas tax breaks, it is quite surprising that the wind industry would want still more from the pockets of taxpayers in Kansas. They boldly acknowledged that they may pay NO income tax by asking in SB 280 that the taxpayers of Kansas *pay them in cash* for the amount of the proposed Kansas Production Tax Credit when they have no tax liability to offset! (Apparently, the FPL Group, parent of the owner of the Gray County "wind farm," paid NO income tax in 2002 or 2003 on over \$2.2 billion in profits.)

"Following ALL the money" and economic impacts of the Gray County "wind farm" and the proposed Elk River "wind farm" in Butler County could supply valuable data for the Committee. Such an effort is started in the spreadsheets attached to my detailed report, but I did not have access to the information needed to make all required estimates. Perhaps your committee, working with the Kansas Department of Revenue could complete the estimates.

The following table, based on reasonable assumptions, shows estimated reductions in federal and Kansas tax liability for the two "wind farms" due ONLY to accelerated depreciation, the existing federal Production Tax Credit and the proposed Kansas Production Tax Credit.

Reductions in Federal and Kansas tax liability due to					
	5- Yr 200% DB Accelerated Depreciation (Total over 6 tax yrs)		Production Tax Credits (Total over 10 Years) *		
	Federal	Kansas	Federal (\$0.018/kWh)	Kansas – If \$0.005/kWh **	Kansas – if \$0.018/kWh**
Gray County	\$39,270,000	\$8,246,700	\$70,766,784	\$19,657,440	\$70,766,784
Elk River	\$66,500,000	\$13,965,000	\$94,608,000	\$26,280,000	\$94,608,000

*Assumes wind farms achieve a 40% annual capacity factor. ** Under SB 280, these amounts apparently would be payments from Kansas' state revenues if the "wind farm" owner had no income tax liability.

The above table does NOT include the value of Kansas' property nor does it show the "wind farm" owners' income from the sale of electricity or "green" trading certificates. If sold at \$0.03 per kWh, the 10-year income from electricity sales could be \$117,944,460 for Gray County and \$157,680,000 for Elk River. "Green" Trading Certificates could add even more income.

The net effects of the generous federal and Kansas tax breaks and subsidies are that:

- A few companies with subsidiaries owning "wind farms" add hundreds of millions of dollars annually to their "bottom line" by shifting tax burden to ordinary taxpayers and saddling electric customers with the high cost of electricity from wind turbines.
- Hundreds of millions of dollars are being invested in facilities that produce only small amounts of low value electricity that causes more environmental harm than good.

I especially urge this committee to recognize that the wind industry has greatly overstated the local and state *economic* benefits of building "wind farms" in Kansas. *It is virtually certain that each "wind farm" built in Kansas and owned by an out-of-state company will result in a net economic loss to the Kansas economy.*

It's important to note that the wealth flowing to out-of-state "wind farm" owners means that the people of Kansas will have *less money to spend in Kansas* on food, clothing, shelter, education, and medical expenses or in stores and shops for other products and services. Less money remaining in Kansas means fewer local jobs and less economic activity.

"Wind farms" create "winners" and "losers." The big winners are "wind farm" owners. Smaller "winners" are the few landowners who lease land for wind turbines. The big "losers" are:

- Taxpayers who must bear the tax burden escaped by the "wind farm" owners.
- Electric customers who pay for the higher cost of electricity from the wind turbines.

The extra cost borne by electric customers will be 10 to 15 times the amount of income received by the few landowners who allow wind turbines on their property..

Energy and Environmental Impacts of "Wind Farms"

I should also point out that wind energy advocates have greatly overstated the environmental and energy benefits of wind energy, and greatly understated the adverse impacts on environmental, ecological, scenic and property values. Specifically, as shown in my detailed report:

1. Wind energy in Kansas does NOT really have the potential to supply a large share of Kansas' electricity demand or provide a significant export potential.
2. Wind turbines are huge facilities, but they produce very little electricity. Two reliable generating plants in Kansas (Wolf Creek and LaCygne) produced more kilowatt-hours of electricity in 2002 than ALL of the 15,000+ wind turbines in the US.
3. Electricity produced by wind turbines has less value than electricity produced by reliable generating units, because wind turbines produce only when the wind is blowing in the right speed range. Output is intermittent, volatile and largely unpredictable and must be "backed up" by reliable, dispatchable generating units.
4. Adding wind turbines would not reduce the need to build reliable, dispatchable generating capacity in Kansas if electricity demand continues to grow. Customers would pay twice.
5. Wind energy advocates often overstate the emission reductions and understate the true environmental costs.
6. Wind energy advocates consistently understate the true costs of electricity from wind by ignoring the costs of backup generating capacity, the higher transmission and grid management costs and the cost of tax breaks and other subsidies.
7. Wind energy has not been the great success in other countries that wind advocates claim. Countries with the large amounts of wind generating capacity have very high electric rates, are having to spend millions to overcome reliability and transmission problems, and face growing opposition due to the environmental, ecological, scenic and property value impacts.

I also urge you to reject the additional tax breaks and the cash payments sought by the wind industry in Senate Bill No. 280.

Actions that the Legislature could take

There are additional actions that the Legislature could take to protect the interests of the people of Kansas. These could include (i) assisting local government officials who must evaluate proposed "wind farms," (ii) tightening conflict of interest and open meeting laws to help assure that local government officials work to protect the interest of all citizens who would be adversely affected by proposed "wind farms," and (iii) providing legal assistance to landowners and financial assistance to citizens who are trying to protect their property and environment when faced with aggressive "wind farm" developers.

Thank you for the opportunity to comment on this important matter.

Sincerely,

Glenn R. Schleede
 18220 Turnberry Drive
 Round Hill, Virginia 20141*2574
 540-338-9958

¹ Schleede, Glenn R., "Misplace State Government Faith in 'Wind Energy' – This time by the Kansas Energy Council, March 1, 2005. My reasons for undertaking self-financed analysis and writing about wind energy are explained on page 34 of the detailed report.

Misplaced State Government Faith in “Wind Energy”

-- This Time by the Kansas Energy Council

A recent report by the “Kansas Energy Council” illustrates how government officials in many state capitals and in Washington create bad government policy by relying on misinformation, bowing to lobbyists, and failing to look at the true costs and benefits of their proposed actions and recommendations.

This report provides facts about wind energy and explains how current federal and state policies on wind energy are:

- Transferring hundreds of millions of dollars annually from ordinary electric customers and taxpayers to a few large companies, and
- Misdirecting the nation’s investment dollars into energy facilities that produce a small quantity, low quality product and that negatively impacts our environment.

* * * *

An Analysis and Report

By

Glenn R. Schleede

Round Hill, Virginia

March 1, 2005

Preface

This report is for the people of Kansas and other states where government officials dealing with energy issues fail to protect the interests of consumers and taxpayers.

In particular, this report is for those people who end up paying higher monthly electric bills and higher taxes when government officials make bad choices by promoting energy sources that do not provide the benefits that are promised and that cost a lot more than their promoters admit.

This report provides a rather harsh, but well deserved, criticism of a report, "Kansas Energy Report 2005," issued by the Kansas Energy Council (KEC) on December 21, 2004. This report cites three fundamental problems with the KEC report and explains why it does not provide a sound basis for public policy decisions. This report then provides a detailed discussion of "wind energy" to demonstrate that the KEC report is unsound.

As this report explains, the KEC apparently has been misled by false and misleading information about wind energy. Such information is widely available from the wind industry, the U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy (DOE-EERE), DOE's National Renewable Energy "Laboratory" (NREL) and other wind advocates. Sadly, much of this misinformation is paid for with tax dollars flowing through DOE-EERE and NREL.

These organizations have consistently overstated the environmental and energy benefits of wind energy and understated the environmental, energy reliability and economic costs. In so doing, they have misled the public, the media and government officials and promoted policies that are lucrative for the wind industry but are not in the public interest.

While the KEC has erred, it is not the only state government body to do so. Governors, legislatures, executive branch agencies, and regulators in other states have also been misled by false and misleading information from wind energy advocates.

The KEC's may be somewhat unique since representatives of various special interests that would benefit from adoption of the KEC's recommendations apparently were permitted to be *members* of the Council. It appears, on the other hand, that the interests of consumers and taxpayers -- the people who would bear the cost of the KEC's recommendations -- were not well represented.

This report takes the time necessary to dissect the claims of wind energy advocates that the KEC has accepted as facts -- and to present the real facts and analysis that demonstrates that those claims are untrue. This report goes beyond the KEC report in that it also provides recommendations for actions that the State governments could take to help protect the interests of their people when they are faced with proposed "wind farms."

GRS

Misplaced State Government Faith in “Wind Energy” -- This Time by the Kansas Energy Council

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Misplaced State Government Faith in “Wind Energy” -- This Time by the Kansas Energy Council

- Executive Summary -

The Kansas Energy Council’s report, Kansas Energy Report 2005, issued on December 21, 2004, does provide useful historical data on the state’s energy production and consumption and descriptions of challenges faced by some of State’s established energy industries. However, it falls short of providing a sound basis for energy policy decisions, because it:

- Provides no evidence that the Council evaluated objectively the benefits, risks and costs associated with the actions that it has recommended.
- Provides no evidence that the Council analyzed the economic impact of its recommendation, particularly the impact on consumers and taxpayers.
- Shows, in the case of *wind energy*, that the Council accepted as facts and relied on the false and misleading information from the wind industry, apparently without checking the validity of that information.

Advocates for various energy sources may be pleased with the report, but consumers and taxpayers who would pay for the recommended actions should not be pleased.

Because the shortcomings of the report are particularly evident in the KEC’s treatment of “wind energy,” this report treats in considerable detail the facts about this energy source that should have been discovered and disclosed by the Kansas Energy Council, including the following:

- Wind energy in Kansas does NOT really have the potential to supply a large share of electricity demand or provide a significant export potential.
- Wind turbines are huge facilities, but they produce very little electricity.
- The electricity produced by wind turbines has less value than electricity produced by reliable generating units.
- Adding wind turbines would not take the place of building reliable, dispatchable generating capacity in Kansas if electricity demand continues to grow.
- Wind energy advocates often overstate the environmental benefits of “wind farms” and understate the true environmental costs.
- Wind energy advocates consistently understate the true costs of electricity from wind.
- Recent evidence shows huge tax avoidance benefits for “wind farm” owners; specifically:
 - Tax breaks provide 2/3 of economic value of a “wind farm.”
 - FPL Group – the parent of wind energy giant, FPL Energy – apparently paid NO income tax in 2002 or 2003, despite over \$2 billion profits.

- Current government policies distort capital investments and transfer wealth from ordinary taxpayers and electric customers to a few big “wind farm” owners.
- Wind energy has not been the great success in other countries that wind advocates claim.

This report then reviews in detail the economics of wind energy, pointing out that it is a great deal for “wind farm” owners but a bad deal for the people of Kansas and other states including the facts that:

- Very generous tax breaks and other subsidies make “wind farms” highly profitable, with the result that tax avoidance – not environmental or energy benefits—is the primary motivation for building “wind farms.”
- Wind energy advocates overstate the local and state economic benefits of “wind farms.”
- “Wind farms” create “Winners” and “Losers.”
- “Wind farms” in Kansas (or other states) owned by out-of-state companies will almost certainly result in a new economic loss to the state.
- Wind energy advocates falsely claim that wind energy does not get its “fair share” of tax breaks and other subsidies

The KEC’s recommendation with respect to wind energy are not in the public interest, but there are steps that state government officials *could* take to protect the interests of the people of the state when a “wind farm” is proposed or, preferably, before. These include:

- Reorienting state utility commissions to the protection of consumers’ interests.
- Taking specific action to protect citizens, landowners, and state and local government officials from aggressive “wind farm” developers.

In its conclusions, the full report that follows points out that:

- Without question, the wind industry, with help from government wind energy advocates have been successful in selling “wind energy” to the public, media and Congress.
- Most political leaders, without knowing the facts, now speak favorably about wind energy.
- However, the truths about wind energy have begun to emerge – largely as a result of:
 - Citizen groups that have sprung up in the US, UK, Continental Europe, Australia and New Zealand to fight wind energy threats to environmental, scenic and property values.
 - Electric customers in Europe who are seeing large increase in electricity prices caused by government efforts to force more use of wind energy.
 - Electric companies in Europe that are faced with additional transmission capacity and grid management cost due to increased use of wind turbines.
 - Government officials in Europe who now realize that greater reliance on “renewable energy” will not help significantly in meeting their Kyoto commitments.
- Citizens, consumers and taxpayers face an uphill fight to reverse government policies that unwisely promote “wind energy,” but these underrepresented interest groups have strong reasons for pressing their representatives at all levels of government to do just that.

Misplaced State Government Faith in “Wind Energy” -- This Time by the Kansas Energy Council

Introduction

Kansas is one of many states where political and business leaders have become increasingly aware that an adequate supply of energy at reasonable prices is essential for their state’s economic growth and for the well being of all Americans. These leaders are also recognizing that meeting the increased demands for energy presents significant challenges.

Kansas Governor Sebelius issued Executive Order 04-05 in June 2004, establishing a reconstituted Kansas Energy Council (KEC). According to its web site, the KEC is charged with “...formulating and coordinating a comprehensive state energy plan and making recommendations on long-term energy policy to the Governor, Legislature, Kansas Corporation Commission, and other appropriate entities.

The Council consists of government officials and representatives of organizations that would benefit from adoption of the Council’s recommendations. As detailed in this report, the interests of consumers and taxpayers were not represented effectively in the KEC’s recommendations.

On December 21, 2004, the reconstituted KEC issued its report, “Kansas Energy Report 2005.” Various energy issues are addressed, but the report places heavy emphasis on wind as a source of energy to produce electricity for use in Kansas and for export.

In the case of wind, it recommends adopting a state “Production Tax Credit” that would be in addition to four major federal and state tax breaks already available to “wind farm” owners. It recommends additional subsidies for “wind farm” owners in the form of (a) “state financing” via Industrial Development Bonds and (b) state consideration of “renewable portfolio standards.” It also recommends legal protection for “wind farm” developers to discuss potential payments in lieu of taxes with local officials without being subjected to bribe statutes.¹

The report does provide useful historical data on Kansas’ energy production and consumption and descriptions of challenges faced by some of the State’s established energy industries. However, the report falls short of providing a sound basis for energy policy decisions, because it:

- Provides no evidence that the Council evaluated objectively the benefits, risks and costs associated with the actions that it has recommended.²
- Provides no evidence that the Council analyzed the economic impact of its recommendation, particularly the impact on consumers and taxpayers.
- Shows, in the case of wind energy, that the Council relied on misleading information from advocates, apparently without checking the validity of that information.

Those advocating particular energy sources may be pleased with the report, but ordinary consumers and taxpayers who would pay the bill for the recommendations should not be pleased.

I. Facts about Wind Energy that should have been Discovered and Disclosed by the Kansas Energy Council

The Council's treatment of "wind energy" illustrates the shortcomings listed above. The pages that follow present many of the facts about wind energy that should have been discovered and divulged by the KEC. Instead, the KEC seems to have limited its consideration to false and misleading claims about benefits of wind energy that have been circulated widely during the past decade by the wind industry and other wind energy advocates. That information has misled the public, media and government officials and has resulted in faulty government policies, overly generous tax breaks and other subsidies that have misdirected investments into low value activities, increased costs for electric customers and shifted tax burden to ordinary taxpayers.

The pages that follow demonstrate that wind energy advocates have greatly overstated the benefits of wind energy and understated the true costs. Admittedly, members of the KEC are not alone in having been misled and in proposing policies favorable to "wind farm" owners but detrimental to the interests of consumers, taxpayers or a state's economy. Such policies have been adopted by other states and by the federal government.

Only recently, as "wind farms" have proliferated in several countries including the US, have facts begun to emerge and "catch up with" the misleading claims made by wind energy advocates. The KEC apparently was not aware of or chose to ignore this growing body of factual information.

The issues are complex and wind energy advocates have told many half-truths. Hopefully this paper will help government officials and others understand "wind energy" better.

- A. Wind energy in Kansas does NOT really have the potential to supply a large share of electricity demand or provide a significant export potential.** The following statement at the beginning of the discussion of wind energy in the KEC report demonstrates vividly how badly some have been misled by false and misleading claims from wind energy advocates:

"Kansas' wind-energy potential ranks somewhere between the first and third in the nation and is at least 10 times greater than the state's current electrical demand. Midwestern states, including the Great Plains, have enough potential in the windiest sites alone to meet the entire nation's electricity needs. Should Kansas or any of the Plains states choose, electricity from wind power could become another exportable resource, much like grain, beef, and airplanes."³

These oft-cited claims are simply not true. They incorrectly assume that a *potential resource* -- wind blowing over Kansas and the Great Plains -- is an *actual, practicable, marketable resource* -- something that can be turned into electricity, transmitted to a place where electricity is needed and can be sold.⁴

Furthermore, these false claims create a *false expectation that electricity from wind would be a viable export product for Great Plains states.*

Wind blowing over Kansas and the Great Plains is not a practicable, marketable resource for producing electricity for several critically important reasons that were ignored by the KEC:

1. The number of turbines required would be huge. Even assuming a high capacity factor⁵ of 40%, nearly 21,000 turbines of the 650 kilowatt (kW) size used at the Gray County “wind farm” or nearly 9,000 of the 1.5 megawatt – MW (1,500 kilowatt – kW) turbines planned for the Elk River project would be required to produce the number of kilowatt-hours of electricity generated in Kansas during 2002; i.e., 47,188,446,000 kWh.⁶

It would take about 734,000 of the 1,500 kW size wind turbines operating at an unlikely 40% capacity factor to produce the same number of kWh produced in the US during 2002; i.e., 3,858,452,000,000 kWh.⁷ But, the *number* of kWh is not all that is important. *Relative value* and *usefulness* of the kWh of electricity from wind is also critically important.

2. A kWh of electricity from a wind turbine has less practical value than a kWh of electricity from a reliable (“dispatchable”) generating unit. Electricity from a wind turbine has less value than electricity from reliable (“dispatchable”)⁸ generating unit because the output from a wind turbine is intermittent, highly volatile, and largely unpredictable except in the very short term. The output is available only when the wind is blowing in the right speed range. Depending on the specific turbine, it may begin producing with a wind speed of about 6 miles per hour (MPH), achieve rated capacity about 33 MPH and shut down to prevent equipment failure around 56 MPH.

The real value of a kWh of electricity produced by a wind turbine is also limited by the fact that winds tend to be stronger at night and in winter months, but in most areas the demand for electricity tends to be highest during the day and in summer.

3. The places where the turbines would be built are often a long distance from the places where electricity is used. This simple fact places several limitations when considering the real value of electricity from wind turbines in the Great Plains:

- Transmission lines would have to be available or built to move the electricity to places where it is needed. This would require thousands of miles of transmission lines and more thousands of transmission line towers.
- Some electricity is lost when it is moved over transmission lines. These “line losses” occur when electricity is moved from one location to another. Line losses are significant but the amount of the electricity lost depends on distance and on the conditions and characteristics of transmission lines and transformers. Serving distant markets would mean that more kWh would have to be generated and the amount of income expected would be reduced because of line losses. (Even more turbines would be required than shown by the calculations above!)
- Electricity from wind turbines is an inefficient user of transmission capacity. Transmission capacity must be available to accommodate the full rated capacity of a “wind farm” but that full capacity is not used effectively because – as explained earlier -- the output from wind turbines is intermittent, volatile and largely

unpredictable. The practical result is that inefficient use of transmission capacity in effect increases the unit cost of that electricity – adding to the already high cost of the electricity from wind turbines.

4. The KEC has contributed to false expectations about the potential for an export market for electricity generated from wind in Kansas and other Great Plains states. Electricity generated from wind is high in cost – a point discussed in more detail later. When the high cost of transmission and line losses are added, it is unrealistic to expect that electricity generated by wind in Kansas would be competitive in distant metropolitan areas. It must be kept in mind that dispatchable generating units built closer to “load centers” (i.e., where electricity is needed) are likely to produce electricity that is more reliable and less costly to customers. For example:

- A gas-fired combined-cycle generating unit of, say, 500 MW in base load service (e.g., perhaps a 75% capacity factor) and occupying a few acres of land could supply 3,285,000,000 kWh of electricity each year *when that electricity was needed* (that is, 500,000 kW x 8760 hours x .75).
- It would take 625 turbines of the size planned for the Elk River “wind farm” in Butler County, KS, and 1442 of the turbines the size of those used in the Gray County “wind farm” – all scattered over hundreds of acres of land – to produce the same number of kilowatt-hours (kWh). This calculation does not take into account line losses. Furthermore, as pointed out earlier, electricity from “wind farms” is unreliable and cannot be counted on to be available when needed.

Limited “export” of electricity is feasible to nearby areas. For example, Empire District Electric Company (EDEC), Joplin, MO, has announced its plans to purchase the output of the planned Elk River “wind farm” in Butler County, KS. According to its web site, EDEC serves some 157,000 customers in Southeastern Kansas, Northwestern Oklahoma, Northeastern Arkansas, and Southwestern Missouri. These areas are relatively close to the planned “wind farm” in Butler County, KS. Whether EDEC actually plans to use the electricity from the “wind farm” for its customers and/or sell “renewable credits” comparable to the output from the Elk River project is unclear from public announcements.

- B. Wind turbines are huge facilities, but they produce very little electricity.** Wind energy advocates often give the impression that wind turbines produce a significant amount of electricity. The towers and turbines are huge, with those apparently planned for the Elk River “wind farm” reaching a height of nearly 400 feet – roughly the height of a 30-40 story building.

The KEC appears not to understand how little electricity the huge facilities produce, or that the electricity has less real value than electricity from reliable, dispatchable generating units. For example:

1. Elk River project in Butler County. If the planned Elk River “wind farm” were to achieve a 40% capacity factor, it would produce about 525,600,000 kWh of electricity each year. This sounds like a lot of electricity but that amount would be equal to 1.1% of the electricity generated in Kansas in 2002 (47,188,446,000 kWh).
 2. All existing wind turbines in the US. The American Wind Energy Association (AWEA) reports that wind energy generating capacity in the US totaled 6,740 MW (6,740,000 kW)⁹ at the end of 2004 – consisting of more than 15,000 windmills scattered across thousands of acres of land in 30 states.¹⁰ If those thousands of windmills average a generous 25% capacity factor, the total amount of electricity produced annually would be 14,760,600,000 kilowatt-hours.¹¹ That, too, sounds like a lot of electricity. However, that amount of electricity would be:
 - Equal to 38/100 of 1% of the 3,858,422,000,000 kWh of electricity produced in the US during 2002.
 - Significantly less than the 17,651,763,000 kWh of electricity produced during 2002 by just two of Kansas’ generating plants (9,041,702,000 kWh by the Wolf Creek nuclear plant and 8,610,061,000 kWh by the LaCygne coal-fired plant).
 3. Potential additional “wind farms.” Even with the generous tax breaks and subsidies that are currently available, the US Energy Information Administration (EIA) forecasts in its Annual Energy Outlook that wind energy will still be producing less 1% of US electricity by 2025!¹²
- C. The electricity produced by wind turbines has less value than electricity produced by reliable generating units.** As noted on page 3, above, electricity from wind is intermittent, volatile and largely unpredictable. Therefore, it deserves repeating that wind turbines *cannot be counted* on to provide reliable generating capacity whenever customers need electricity. In electric industry jargon, wind turbines have little if any “capacity value.”¹³
- D. Adding wind turbines would not take the place of building reliable, dispatchable generating capacity in Kansas if electricity demand continues to grow.** The fact that wind turbines cannot be counted to produce electricity whenever customers need it (i.e., have significant “capacity” value) has another important implication. That is, if Kansas experiences significant increases in electricity demand during peak demand periods, reliable (“dispatchable”) generating capacity would have to be added. “Wind farms” simply will not provide that reliable capacity. In fact, electric customer will, in effect, end up “paying twice”; first for the electricity from wind and then for the reliable generating capacity needed to meet peak electricity demand.
- E. Wind energy advocates often overstate the environmental benefits of “wind farms” and understate the true environmental costs.** Based on its report, the KEC appears not to recognize that wind energy advocates typically overstate its environmental benefits and understate its true environmental costs.

1. Overstating environmental benefits of wind energy. The principal environmental benefits claimed by electricity-from-wind advocates is that such electricity will offset a like amount of electricity (kWh) that would have been produced by fossil-fueled generating units and would avoid the emissions associated with the displaced kWh. The advocates often overstate the “emission avoidance” benefits in 4 ways:
 - a. *Using old data.* They have often used old emissions data in their calculations.
 - b. *Ignoring emission reductions that are underway.* They have not taken into account the reductions in emissions that will be achieved as existing fossil-fueled generating units are brought into compliance with existing environmental statutes and regulations.
 - c. *Basing emission assumptions on wrong generating units.* They often assume that a kWh “avoided” would have been generated by a coal-fired or other relatively high emission generating unit when, in fact, any kWh “avoided” may have been produced by a lower emission fossil-fuel unit (e.g., gas-fired) or a hydro or a nuclear powered unit. Except in areas with substantial hydro capacity, any “avoided kWh” would likely have been generated by a gas-fired unit.
 - d. *No emissions displaced when “cap and trade” systems in place.* They ignore the fact that, in there is NO real displacement of ANY emissions in the case of pollutants covered by “cap and trade” systems, such as those covering sulfur dioxide (SO²) and nitrogen oxides (NO^x). If the electricity from wind turbines happens to displace the need for electricity from a fossil-fueled generator that is within a “cap and trade” system, the owner of that fossil-fueled unit has the right to sell the “emission credit” to the owner of some other generating unit who is then free to use it. On balance, there would be no emission “avoided” or “displaced.”
 - e. *Generating units serving in backup role for wind generators continue to emit.* Finally, they have failed to take into account the fact that, when wind turbines – with their intermittent, volatile, and largely unpredictable output – are connected to an electric grid, some reliable, dispatchable generating unit must be immediately available to serve as backup for the wind turbines and keep the grid in balance (supply-demand, voltage, frequency). That means that one or more reliable units must be connected to the grid and either (i) operating at less than full, efficient capacity¹⁴ or (ii) operating in a spinning reserve mode. When operating in either mode, a fossil-fuel unit will be giving off emissions with the result that a kWh of electricity from a wind turbine does not offset a kWh from another generating unit on a one-to-one basis.
2. Understating or ignoring the environmental costs of wind. Wind advocates often understate or try to ignore the adverse effects of wind energy, particularly the adverse environmental effects. As more “wind farms” have been built in various countries around the world, the adverse impacts on environmental, ecological, scenic and property values as become much clearer. A full description of the adverse implications

is beyond the scope of this paper. However, it should be noted that those impacts causing complaints and growing citizen opposition include bird kills; interference with bird migration patterns; disruption of natural areas, terrestrial habitat and wildlife; noise; scarred mountain ridges, shadow flicker or “strobing” effect of rotating blades; reflected light (blade glint); “light pollution” from aircraft warning lights on turbines, towers and, possibly, blades; scenic impairment, and reduced property values for neighbors.¹⁵ Wind energy advocates also tend to ignore health and safety risks, including the risks of blade and ice throw in a significant area around the wind turbines.

These adverse effects have not had much attention in the general media or energy trade press where reporters are more inclined to take their cues from wind industry press releases and government wind advocates. However, the facts are getting additional attention as the result of dozens of citizens groups that have sprung up around the world and increased coverage of the facts in “the new media.” The growing body of literature dealing with these adverse environmental effects of wind energy seems to have been completely ignored by the Kansas Energy Council.

F. Wind energy advocates consistently understate the true costs of electricity from wind.

Wind energy advocates in the US Department of Energy (DOE), the National Renewable Energy “Laboratory” (NREL), other DOE contractors and grantees, and the wind industry are fond of claiming that the cost of electricity from wind has declined by some 80% since 1980 to less than five cents per kWh and will continue to decline as technology improves.¹⁶

This mantra has been used often to support DOE’s spending of additional millions of taxpayer dollars each year on “wind energy R&D” even though wind turbines are offered in commercial markets by General Electric and several European and Japanese owned companies.

As explained below, The FACTS are that:

- No one knows the true long-term costs per kWh of electricity from today’s wind turbines.
- Wind advocates ignore large shares of the *true cost* of wind energy when they make their claims about cost per kWh of electricity from wind.

Unfortunately, the advocates’ false and misleading claims are picked up and repeated as if they were true by dozens of well-meaning people in the public, media and government.

1. No one knows the true long-term costs per kWh of electricity from today’s wind turbines. All claims about the cost per kWh of electricity from wind turbines are based on assumptions, particularly because there has not been enough long-term experience with today’s wind turbines to know:

- How long they will last (i.e., their useful lifetime).
- How much electricity they will produce (i.e., capacity factor).
- How much their performance will deteriorate over time.
- What their maintenance, repair and replacement costs will be as facilities age.

Yet, all of these factors must be known to make a valid claim about the actual costs of electricity from a wind turbine. In fact, none of the turbines now being installed (e.g., of the 1.5 MW size) have been in operation long enough to provide actual data.

The critical role of assumptions in wind energy advocates' claims is easily illustrated. Specifically, wind advocates often assume that turbines will last 20 years (or sometimes 25 or 30 years) and that they will have a capacity factor¹⁷ that is estimated from data on wind conditions at the site where turbines will be installed.

- If they are making an estimate for a 1.5 MW (1,500 kW) turbine with “overnight” capital cost of \$1.5 million and assume that it will have a useful life of 20 years and an annual average capacity factor over the 20 years of 35%, the arithmetic would show a per kWh overnight capital cost of \$0.01087 per kWh.
- If, however, the turbine lasts only 10 years (or it was abandoned after 10 years because all the tax benefits had been captured, performance had deteriorated, or maintenance costs became prohibitive), the overnight capital cost would be twice as much; i.e., \$0.02174 per kWh.¹⁸

This simple example deals only with the useful life of a wind turbine. It ignores all the other factors that would actually have to be taken into account, such as cost of capital; maintenance, repair and replacement costs; cost of other equipment and facilities such as substation, transmission, control and data acquisition, and more. Also, if the capacity factor did not achieve 35% or if performance deteriorated over time (e.g., fouling of blades) calculations would yield even higher costs per kWh.

2. Wind energy advocates typically underestimate or ignore significant parts of the true costs of wind energy in the U.S. Among those costs are:

- *The cost of tax breaks and subsidies* (more on this below) which shift tax burden and costs from “wind farm” owners to ordinary taxpayers and electric customers.
- *The cost of providing backup power to balance the intermittent and volatile output from wind turbines.* Adequate capacity is available on some grids to meet this requirement, but there are costs of providing the service, whether it is a unit running in automatic generation control mode, otherwise at less than full capacity, or in spinning reserve. Ramping up and down to balance volatile wind turbine output may add to wear and tear costs on the backup units. If adequate capacity is not available, backup capacity would have to be constructed resulting in additional costs that are, at some point, passed on to customers.
- *The full, true cost of transmitting electricity from “wind farms” to electric customers.* As indicated earlier, “wind farms” are inefficient users of transmission capacity. Transmission capacity must be available to accommodate their total rated output but, because the output is intermittent and volatile, that transmission capacity is used only part time, with the result that the true unit cost of transmitting

the electricity is high. The wind industry seeks to avoid these costs by shifting them to electric customers.

- ~~*The extra burden on grid management.*~~ There is no doubt that these costs occur. They differ widely among “wind farms” and grids depending on many factors, such as the energy source mix of generating capacity in the control area, the amount of wind generation and its volatility, and electricity demand. Unfortunately for consumers, some grid operators and utility commissions have allowed “wind farms” to escape these costs by shifting them to electric customers.

G. Recent evidence of huge tax avoidance benefits for “wind farm” owners. Two recent developments confirm that subsidies for wind generation are extremely attractive, particularly to large organizations that have income to shelter from taxation.

1. Tax breaks provide 2/3 or wind project value. On December 15, 2004, an official from the firm of Milbank, Tweed, Hadley & McCloy, LLP, pointed out to the American Bar Association’s Renewable Energy Committee that 2/3 of the value of a wind energy project comes from two federal tax breaks.¹⁹
2. FPL Group, Parent of FPL Energy, paid no income tax in 2002 and 2003. A September 22, 2004, report by Citizens for Tax Justice (CTJ)²⁰ claims that the FPL Group paid no federal income tax in 2002 or 2003 despite having profit of \$2.2 billion during those years. FPL Group is the parent of FPL Energy, which organization made large investments in “wind farms” during those years and now claims to be the nation’s leading wind energy producer.

The CTJ claim appears to be supported by the financial statements in the FPL Group annual report.²¹ Large investments in wind during 2002-2003 would have qualified FPL Energy for large accelerated depreciation deductions from taxable income and significant wind production tax credits. Those deductions and credits could have been used by FPL Group, assuming that FPL Energy was a part of an FPL Group consolidated tax filing.

H. Current government policies distort capital investments and transfer wealth from ordinary taxpayers and electric customers to a few big “wind farm” owners. Tax breaks and other subsidies for wind energy, justified by their sponsors as being necessary to encourage investments in a relatively new, “environmentally friendly” energy, have:

- Become a multi-million dollar tax shelter, particularly for a few large companies.
- Resulted in the “transfer” of hundreds of millions of dollars from the pockets of ordinary taxpayers and electric customers to “wind farm” owners (as explained later).
- Permitted the “wind farm” owning companies, using relatively little of their own equity (which they can recapture quickly), to determine where hundreds of millions of dollars are invested - and to spend that money on wind energy facilities that produce small amounts of electricity that has relatively low real value.

Companies that are eligible for more tax breaks than they can use are even able to “sell” those tax breaks to other taxable entities that can use them to reduce their taxes.

It is possible, of course, that federal and state government officials do not even understand how generous they have been with tax breaks and subsidies for wind energy or that they are making it possible for large, highly profitable companies to escape paying any taxes.

Once profitable tax breaks and other subsidies are adopted, those who benefit from them are highly effective in keeping them alive – even when they are not in the national and public interest and even though they adversely affect environmental, ecological, scenic and property values. Companies benefiting from such tax breaks and subsidies often underwrite substantial lobbying forces and contribute heavily to politicians who preserve, protect and extend the benefits. Furthermore, many in the public, media and government have not yet grasped the fact that much of what they have been told about wind energy is simply not true.

In the case of wind energy, Senator Grassley (R-IA), Chairman of the tax-writing US Senate Finance Committee, is probably the leading advocate in Congress for keeping alive the wind Production Tax Credit. Substantial wind energy generating capacity has been built in Iowa and “wind energy” is strongly supported by the people of Iowa – even though it is virtually certain that any Iowa “wind farm” owned by an out-of-state company results in a net economic loss for the state (as explained later).

However, what has proven acceptable to Iowans has proven to be quite unacceptable to many people in other states, particularly those who object to the environmental damage caused by “wind farms.” Ideally, those who value the scenic beauty of the mountains in the East and West, the Tall Grass Prairie of Kansas, the shores of the Great Lakes, the bird and bat populations throughout the country, or the serenity and value of their homes should not have to accept the damage resulting from the Senator Grassley’s largess with others’ money.

- I. **Wind energy has not been the great success in other countries that wind advocates claim.** Wind energy advocates often claim that other countries, such as Denmark and Germany, have had great success in their programs to subsidize and force use of wind energy.

Those claims are false but an objective analysis and presentation of the facts about foreign wind energy programs would greatly lengthen this report. However, facts about the problems being experienced in European countries can be found easily on various web sites.²² Among the problems with wind energy being experienced in Europe are:

- The extraordinary high costs that are loaded on electric customers, particularly in Germany and Denmark and expected in the United Kingdom.
- The adverse impacts on environmental, ecological, scenic and property values, which has become more and more evident in the UK, Spain, Australia and New Zealand as well as in the US.
- The fact that electricity from wind turbines, particularly in Denmark, tends to be generated at times when it cannot be used. Apparently, the excess wind-generated electricity is “dumped” on surrounding grids at night at very low prices, and then

electricity commanding a higher market price is purchased from surrounding grids to satisfy customer requirements when demand is higher during daytime hours.²³

- The fact that the intermittent, volatile and largely unpredictable electricity output from wind turbines has added to the burden of grid management and created the need for expensive additions to transmission systems, particularly in Germany.²⁴

II. Economics of Wind Energy: A great deal for “wind farm” owners – which the KEC would make even better -- but a bad deal for the people of Kansas and other states

Wind energy advocates often claim that “wind farms” provide a variety of economic benefits, including income for landowners who allow turbines to be built on their property, other economic benefits in areas where “wind farms” are located, such as more jobs and higher tax revenue, local purchases, and various “indirect” economic benefits. (As explained later, advocates greatly overstate these benefits.)

Wind advocates seldom mention that “wind farms” are fabulous deals for “wind farm” owners, particularly because of enormous tax breaks and subsidies (detailed below) available to the owners – the costs of which are borne by ordinary taxpayers and electric customers. Neither do they admit that landowners who lease their land for wind turbines are indirectly helping to push up their neighbors’ electricity prices.

Despite the tax breaks already available, the wind industry continues to press for more (also detailed below) and the Kansas Energy Council has acceded to their requests.

It is not possible without having access to data from owners, regulators, tax authorities, and others to *quantify* specifically *all* the economic benefits and costs associated with a “wind farm.” However, some benefits and costs can be quantified and others can be identified and described but cannot be quantified with the information now publicly available. Two spreadsheets are attached to this report which quantify those costs and benefits that can be estimated and list others that cannot be quantified for the existing “wind farm” in Gray County, KS, and the planned “wind farm” in Butler County, KS.

A. Very generous tax breaks and other subsidies make “wind farms” highly profitable with the result that tax avoidance – not environmental, energy or economic benefits – is the primary motivation for owning “wind farms.” The KEC report does not show any appreciation for the facts that:

- Multiple federal and state tax breaks and other subsidies for “wind farms” are already in place.
- “Wind farms” are now profitable ventures, without the *additional* tax breaks and subsidies recommended by the KEC.
- All the tax breaks and subsidies shift costs and tax burden from “wind farm” owners to ordinary taxpayers and electric customers and hide them in tax bills and monthly electric bills.
- Tax breaks and subsidies are in addition to – and may exceed – the income that “wind farm” owners get from the sale of the electricity that is produced.

This section of the report describes:

- The four principal tax breaks available to Kansas “wind farm” owners:
 - Federal accelerated depreciation
 - Federal Production Tax Credits
 - Reduction in Kansas Corporate Income Tax (due to accelerated depreciation).
 - Elimination of property taxes on wind energy equipment.
 - Other subsidies already available to the wind industry and/or “wind farm” owners.
 - Additional subsidies proposed for “wind farms” by the Kansas Energy Council.
 - Income received from the sale of electricity generated by the “wind farm.”
 - Potential additional income from the sale of “green energy” credits and “greenhouse gas” avoidance credits.
 - Additional subsidies being sought by the wind industry, nationally.
1. Federal Accelerated Depreciation. One very generous subsidy available to companies with income to shelter is 5-year double declining balance accelerated depreciation (5-yr.; 200% DB) that can be used to calculate depreciation for tax purposes. This is one of the depreciation schemes permitted by IRS under the label “MACRS,” Modified Accelerated Cost Recovery System.”²⁵ Five-year 200% DB can be used for capital costs of facilities using wind to produce electricity for sale. Nearly all other electric generating facilities²⁶ must use 20-year depreciation, so “wind farm” owners are receiving a tremendous benefit.

Five-year double declining balance (5-yr. 200% DB) depreciation deductions from otherwise taxable income are shown in the first table below. The table below is based on an assumption that the capital costs of a “wind farm” is \$190,000,000 -- which is the estimate of the capital cost of the planned Elk River “wind farm” in Butler County, KS.²⁷ Specifically, the table shows for each year:

- The percentages and amounts of capital costs that could be deducted from otherwise taxable income.
- The reduction in federal income tax liability, assuming a 35% marginal corporate income tax rate.
- The last column shows the reduction in Kansas state income tax, which is explained later.

Year	% of investment Recovered	Income that could be sheltered	Reduction in Federal Tax Liability (assuming 35% marginal rate)	Reduction in Kansas Tax Liability (assuming 7.35% marginal rate)
First	20%	\$ 38,000,000	\$13,300,000	\$2,793,000
Second	32%	\$ 60,800,000	\$21,280,000	\$4,468,800
Third	19.2%	\$ 36,480,000	\$12,768,000	\$2,681,280
Fourth	11.52%	\$ 21,888,000	\$ 7,660,800	\$1,608,768
Fifth	11.52%	\$ 21,888,000	\$ 7,660,800	\$1,608,768
Sixth	5.76%	\$ 10,944,000	\$ 3,830,400	\$ 804,384
Total	100%	\$ 190,000,000	\$66,500,000	\$13,965,000

If the “wind farm” were sold to a new owner after the accelerated depreciation allowances were used,²⁸ the new owner would also be able to utilize the generous accelerated depreciation benefits to “recover” its capital investment.

2. Federal Production Tax Credit. The second generous federal subsidy available to “wind farm” owners is the Production Tax Credit of \$0.018 per kWh of electricity generated during the first 10 years of a wind project’s life. At the current rate of \$0.018 per kWh, owners of the proposed 150 MW Elk River “wind farm” in Butler County would receive a tax credit (i.e., a direct deduction from its federal income tax bill) of \$9,460,800 per year if the turbines produce at an average 40% capacity factor (i.e., 150,000 kW x 8760 hrs. x .40 x \$0.018). The rate, originally set at \$0.015 per kWh, has been adjusted upward for inflation.²⁹

Organizations owning “wind farms” must have substantial taxable income from other sources to take advantage of the two federal tax shelters described above.³⁰ That is one reason why small “wind farm” development companies often sell off their projects to larger companies or find ways to “sell” the tax benefits.

3. Reductions in “wind farm” owners’ Kansas Corporate Net Income tax liability. Kansas taxes corporate income at a basic rate of 4% with a 3.35% “surtax” for income over \$50,000. The starting point in computing Kansas taxable income is the federal taxable income of the corporation. Thus the generous federal accelerated depreciation deduction described in paragraph 2, above, reduces the taxable income basis used before applying Kansas’ 7.35% marginal income tax rate.

The exact amount of Kansas income tax that can be avoided by “wind farm” owners due to the federal accelerated depreciation benefit cannot be determined accurately without having details about the owners and their parent and affiliate organizations. However, the impact on the owners’ Kansas income tax liability could be as much as 7.35%, which is shown in the last column of the table in paragraph 2, above.

4. Property tax exemption for “wind farm” equipment in Kansas. Since January 1, 1999, all wind and other “renewable” energy equipment used to produce electricity in Kansas has been fully exempt from property tax.³¹ Estimating the true value of this exemption for a “wind farm” owner is not attempted in this paper because the valuation process for utility assets (which a “wind farm” probably would be considered if it were not exempt) is quite complex. Perhaps tax experts in the Kansas Department of Revenue could make a reasonable estimate of the true value of the exemption.

In some cases, “wind farm” owners make voluntary payments in lieu of taxes to offset part of the revenue lost by state and local governments as a result of the exemption. Such payments may or may not be adequate to cover the costs that will be incurred *because of* the facility; e.g., for road construction and repair, and police and fire protection. Typically, such payments are offered only in the early years of a project to help gain public and political support for permits and approvals needed to proceed with

construction and operation, whereas property taxes would continue for the life of the facility. Information on any such payments in Gray County or proposed in Butler County is not readily available.

5. Other Subsidies for “wind farms” and/or the wind industry. A wide variety of other subsidies accrue to the benefit of the wind industry and/or specific “wind farms.” These include:
 - a. U.S. Department of Energy (DOE) funding for wind energy R&D. As indicated earlier, several hundred million in tax dollars have already been spent by DOE for wind energy R&D. This funding is continuing even though several companies sell wind turbines commercially and those companies – at least US leader, General Electric – should be able to finance their own R&D without “corporate welfare” at taxpayer expense.
 - b. “Renewable Portfolio Standards” (RPS). Such standards, in a variety of forms, have been adopted by about 17 states. The KEC has announced that it will “Direct a team to enact a study of the economic, environmental and energetic effects associated with the enactment of a statewide renewable portfolio with Tradable Energy and Environmental Credits.”³²

Renewable Portfolio Standards (RPS) help increase consumers’ electric bills.

- First, they provide artificial, guaranteed markets for high priced electricity produced from renewable energy facilities, including “wind farms” assuring the owners of these facilities that they will not have to compete with prices of electricity produced from traditional energy sources, such as coal, natural gas, oil, hydropower or nuclear energy.
- Second, a RPS typically establishes some minimum percentage of electricity sales that must come from “renewable” energy sources. The company selling the electricity to end use customers (often an electric distribution utility) can either generate the electricity from “renewable” sources, buy it from some firm that generates such electricity, or, perhaps, buy “renewable energy credits” (i.e., the scheme contemplated by the KEC.) covering the amount of electricity needed to meet the percentage standard.

The higher cost of the electricity from “renewable” sources and/or the credits that the electric distribution company is forced to pay (instead of the lower cost electricity from traditional sources) is, in one way or another, passed on to electric customers in the form of higher bills for electricity – with the blessing of state public utility commissions.

Governors, state legislators, and utility commissions that participate in establishing these programs typically escape the blame for the higher cost because:

- The amount added to each customer's monthly bill may be quite small – even though the total borne by all customers will be large,
- The programs are described (falsely) as providing significant environmental benefits,
- The adverse environmental effects of “wind farms” are not admitted, and
- In any case, interests of real consumers get little attention and little protection in state legislatures, executive departments and public service commissions.

The KEC report demonstrates the above. Apparently, staff from the state public utility commission – an organization charged with defending interests of electric customers – participated in the activities leading to the KEC report. (The electric customers of Kansas should be outraged!)

Quite understandably, “wind farm” owners and other renewable energy producers like Renewable Portfolio Standards (RPS) and have lobbied hard to have them mandated by states and the federal government. In those states with RPS, millions of dollars are transferred annually from the pockets of ordinary electric customers to owners of “wind farms” and other renewable projects.

- c. Mandated “green energy” purchases. Other artificial “markets” are created for the benefit of “wind farm” and other renewable energy producers by federal and state executive actions and, in some cases, by state statutes. In these cases, federal or state government agencies and state funded colleges are required to obtain certain portions of the energy they use from “renewable sources” even though the energy requires payment of above market prices.

Such “green energy” programs are popular in Washington and state capitals because the person or agency ordering the action gets credit for being an enlightened, environmentally conscious leader while hiding the added costs in the complying agency's or university's budget and ignoring the adverse environmental impacts.

The “green energy” producers benefit by selling their high cost product and taxpayers (or students and their parents) bear the cost. Agencies and institutions required to buy the higher priced “green electricity” often must offset the higher cost that they are forced to pay by reducing spending elsewhere; e.g., forced purchases by the military services mean less money is available for training, weapons and other equipment.

- d. “Voluntary” programs offering “green” electricity at a premium price. Utilities in many states now have programs where customers are permitted to volunteer to pay a higher monthly bill when the utility assures them that the electricity they are paying extra for is generated from a “renewable” energy source. In some states these programs are required by law, in others utilities are “encouraged” to create them by state utility commissions, governors or legislators. In still other cases, such programs are created by a utility as a way to show customers, the public,

media or government officials that they are “environmentally conscious” – efforts that have become known as “green washing.”

Typically, relatively few electric customers volunteer to pay the required premium price, particularly if they realize that (i) their decision to do so would be largely symbolic and/or (ii) that other actions, such as using more energy efficient light bulbs, are much more cost effective and environmentally meaningful.

Some local and state governments volunteer to pay higher prices for so-called “green” electricity for government buildings but these, too, are largely pseudo-environmental, done with someone else’s money (taxpayers) and done for “image building” purposes. Similarly, a few business firms have made “high publicity” decisions to buy “green” electricity. Many colleges and universities, usually stimulated by student activists who do not concern themselves with cost effectiveness, have signed up to buy “green” electricity.

Quite likely, few of the people “volunteering” – whether with their own money or someone else’s – take into account the environmental damage caused by the “wind farms” that produce the electricity they are paying for. They, too, have been misled by the false and misleading claims from the wind industry, DOE, NREL and others.

A fundamental problem with these “voluntary” premium priced electricity programs – from an electric customer point of view -- is that the extra revenue generated by the premium price is generally not sufficient to cover the higher cost of the electricity and the cost of the staff that must be maintained by a utility to administer the programs. The net result is that any of the utility’s costs that are NOT recovered through the premium price are then passed on to all of the utility’s customers. Since the amount for any one customer is small, this insidious practice continues.

- e. State utility commission actions that subsidize “wind farms.” As pointed out earlier, “wind farms” are inefficient users of electric transmission capacity because the output from wind turbines is intermittent, volatile and largely unpredictable. The wind industry has worked hard to shift the cost of building transmission capacity from “wind farm” owners to electric customers. Some utility commissions have been quite willing to help achieve this additional subsidy for “wind farms.”

For example, the Minnesota Public Utility Commission approved a \$148 million transmission capacity increase that Excel said was necessary to serve proposed “wind farms” in Southwest Minnesota. Apparently the cost of this project will be passed along to all the utility’s electric customers even though it is really for the benefit of the “wind farms.” A somewhat similar situation occurred in Texas where adding electric transmission capacity was necessary to handle the intermittent, volatile and unpredictable output from wind turbines in west Texas.

Apparently the wind industry is also seeking transmission capacity in Kansas that would be paid for by shifting the cost of that capacity from wind farm owners to

electric customers (and hiding it in their monthly bills). The KEC report notes³³ that requests for transmission capacity additions in Kansas total 2,843 MW and that 1,943 MW or 68% of the total is for “wind energy demands.” Kansas’ electricity customers should not have to pay the cost of transmission that is built to serve “wind farms,” particularly when wind energy’s use of transmission is inefficient, the amount of useful electricity is small, and its value is limited.

- f. ISO and RTO actions to subsidize “wind farms.” Special arrangements have also been made by grid managers (e.g., Independent System Operators -- ISOs and Regional Transmission Organizations - RTOs) that have the effect of providing additional subsidies to “wind farms.” For example, the PJM Interconnection has assigned arbitrarily established “capacity values” for “wind farms” even though these facilities have virtually no capacity value.
6. Additional tax breaks and subsidies recommended by the Kansas Energy Commission. Recognizing the enormous subsidies already available for wind energy (as well as the adverse impacts on the Kansas economy which will be discussed later), there would appear to be no compelling reason for the wind industry to demand, or the KEC to recommend, additional subsidies. However, the KEC has recommended 3 additional measures favorable to “wind farm” owners and also is considering a “public benefit fund.” Such “funds” are usually financed by adding a new charge (in effect, a tax) on monthly electricity bills.

The principal rationale offered by the KEC for providing more subsidies for “wind farms” is “to keep Kansas competitive with other nearby states.”³⁴ This logic is less than convincing since the KEC report makes clear³⁵ that various organizations have already advanced more than a dozen proposals to build “wind farms” in the state. The KEC’s “rationale” suggests that it has taken a “follow the herd” approach and has no analytical support for its recommendations.

- a. *A state Production Tax Credit.* The KEC has recommended³⁶ that “wind farm” and other renewable energy producers be given a state Production Tax Credit of \$0.005 for each kWh of electricity produced during the first 10 years of the facility’s operation. If the proposed 150 MW Elk River “wind farm” in Butler County, KS, were to operate at a 40% capacity factor, this PTC would be worth \$2,628,000 per year to the owners (i.e., 525,600,000 x \$0.005).
- b. *Industrial Development Bonds to Finance “wind farms.”* The KEC has also recommended³⁷ that Kansas Development Finance Authority (KDFA) be authorized to allow “wind farm” owners to finance their projects using state backed bonds (“industrial development bonds”). Such bonds have interest rates that are lower than commercial financing, particularly because of their favorable tax treatment. While the bonds are not backed by “the full faith and credit of the State of Kansas,”³⁸ bonds issued by state development authorities tend to enjoy lower interest rates because of a perception that measures might be taken by the state to prevent default.

Since most of the “wind farms” proposed for Kansas would be owned by out-of-state companies, any bonds issued by KDFB would benefit those companies, not the people of Kansas. Also, tax burden that is escaped through the use of industrial development bonds is shifted to ordinary taxpayers who cannot take advantage of such tax shelters.

- c. *Protection from “Bribe” charges.* The KEC has recommended that the State Legislature “... adopt language clarifying that negotiations and discussions between wind-energy developers and local governments regarding voluntary payments for wind projects are legal.”³⁹ This recommendation is explained as necessary to overcome a Butler County court ruling that indicated such payments during a zoning process could be considered a bribe.

The KEC has failed to recognize that the State’s decision to exempt “wind farm” equipment from property taxes sets up a situation where local government officials are made vulnerable to “generous” offers from “wind farm” developers. Because of the property tax exemption, local governments and school districts are denied any tax revenue to help them cover the local costs imposed by a “wind farm” (e.g., road construction and maintenance; police and fire protection).

Since they are then starting from \$0 dollars, anything offered as a “payment in lieu of taxes” has an immediate attraction. The “wind farm” developer can play the role of a generous benefactor and “laugh all the way to the bank” because he has escaped payment of property taxes which would have cost much more. When local officials are put into such unfair situations, a contribution (i.e., a “payment” in lieu of taxes), however small, appears to be better than nothing and a reason to give the developer whatever he may want. Ordinary citizens in the areas affected end up “paying twice.” They pick up the property tax burden escaped by the “wind farm” developer and they end up with huge wind turbines “in their front yard.”

- d. *Establishing a “public benefit fund.”* The KEC also indicated that it will study “the costs and benefits of implementing a public benefit fund to support strategic energy activities in Kansas, and options to fund it.” While considering “costs and benefits” is laudable, no one should be fooled by the “public benefit fund” label. Such funds have been established in other states by adding a “charge” or “fee” on electric customers’ monthly bills -- with the proceeds dispensed by government officials for a variety of often wasteful projects. Hopefully, the Kansas Legislature will consider the way such funds have been used in other states (e.g., MA, NY, WI, MN, CA) before taking more money from the pockets of consumers with a thinly disguised *tax*.
7. Income for “wind farm” owners from the sale of the electricity. The value of all the federal and state subsidies for “wind farm” developers and owners is *in addition to* the revenue received by the “wind farm” owner for the sale of electricity.

Owners of the existing and proposed “wind farms” in Kansas apparently do not disclose publicly the selling price of the electricity that has been or will be produced, so only rough estimates are possible. For example:

- If FPL Energy’s Gray County, KS, 112.2 MW “wind farm” were to operate at an average annual capacity factor of 40%, it would produce 393,148,800 kWh of electricity each year. If that electricity was sold at an average price of \$0.03 per kWh, the annual income would be \$11,794,464.
- If Scottish Power–PPM’s proposed 150 MW “wind farm” in Butler County, KS, wind farm were to operate at an average annual capacity factor of 40%, it would produce 525,600,000 kWh of electricity each year. If that electricity was sold at an average price of \$0.03 per kWh, the annual income would be \$15,768,800.

8. Potential additional income for “wind farm” owners. There are two other potential sources of income that “wind farm” owners may be able to capture though not enough is known to reach a conclusion at this time:

- Some states are allowing utilities to satisfy “Renewable Portfolio Standards” minimums by purchasing “renewable energy credits” or RECs. Under some RPS and REC trading schemes, a “wind farm” owner could derive income from such credits *in addition to* selling the electricity from wind turbines.⁴⁰
- Owners of “wind farms” built in the US may be able to derive additional income or value by claiming that these “wind farms” avoid or displace emissions of “greenhouse gas.” Such claims might be made by foreign owners or by US owners operating in countries subject to the Kyoto Protocol. Some bills pending in the US Congress that call for a carbon trading scheme in the US may also permit income from selling both electricity and credits.

9. Additional subsidies being sought by the wind industry nationally. Undoubtedly, wind industry lobbyists will continue pushing for more subsidies from federal, state and local governments. Two such subsidies that the wind industry appears to consider high priority are:

- Construction of transmission lines that would serve “wind farms” but would be paid for by someone else.
- Exemptions from or reductions in charges that are imposed by transmission providers, ISOs or RTOs to compensate for system costs when “wind farms” do not deliver the electricity they promise when it is promised.

B. Wind energy advocates overstate the local and state economic benefits of “wind farms.” The wind industry, DOE, NREL and other wind energy advocates have long claimed that “wind farms” produce significant state and local economic benefits. Those claims are always exaggerated and, frankly, wrong. Those organizations overstate economic benefits and understate economic costs.

Those who prepare economic “studies” and “analyses” that claim significant local and state economic benefits typically make two fundamental mistakes:

- Most important, they start with incorrect assumptions which lead to overestimating both “direct” benefits and “indirect” or “induced” job creation and other economic benefits.
- They fail to consider the *costs* of having a “wind farm” in the state or locality.

In an earlier paper,⁴¹ I analyzed in detail an “economic model” developed for and promoted by one of the US Department of Energy’s (DOE) national “laboratories,”⁴² NREL. This “model” is called, “Jobs and Economic Development Impact” (JEDI) model, and is sometimes referred to as the “Wind Impact Model” (WIM).

That model, applied in the manner prescribed, produces exaggerated estimates of economic benefits and low estimates of economic costs. A close look at the “model” will show that:

- Acceptance of its “default” assumptions produces unrealistically high estimates of economic benefits in both potential jobs and potential economic activity.
- Key factors affecting net state or local economic benefits and costs are not reflected in the model and, if taken into account, further reduce the net local economic benefits.

In the previous paper referred to above, a demonstration of the JEDI-WIM model -- comparing the results of NREL’s “default” assumptions with the results when using *more realistic assumptions* -- shows that:

- NREL’s “default” recommendations produce estimates of local economic benefits and jobs that are more than 200% higher than estimates based on reasonable assumptions.
- If costs resulting from a “wind farm” that are ignored by the JEDI-WIM model are taken into account, total economic costs would almost certainly exceed benefits.

To be more specific, the following basic errors are often made in economic “analyses” that are compiled for or used by wind energy advocates:

1. Overestimating the number of jobs that will be created and filled by local residents.⁴³
These overestimations occur at both the construction and permanent operation states.

- a. *During Construction.* Experience at other “wind farms” demonstrates that few jobs during construction are filled by local residents. In fact, most are filled by imported workers. For example, data on the 80-megawatt Top of Iowa “wind farm” (consisting of eighty-nine 900 kW turbines collected by the Iowa Department of Natural Resources (DNR) indicates that only 20 of 200 jobs created during the construction period (which lasted about 6 months) were filled by local people.⁴⁴

This low number of jobs for local workers is quite understandable since workers with specialized skills required during construction – such as erection of towers, installing turbines and electronic controls – often would not be available locally.

- b. *Permanent jobs.* Also typically overstated are the total number of permanent jobs that would be created and the number of these jobs that would be filled by local

residents -- rather than by workers who would travel to the site (e.g., technicians skilled in repairing and maintaining turbines, electronic equipment) only when needed, rather than remaining in the area continually.

2. Overstating local economic benefit by counting full price of goods and services rather than value added.⁴⁵ Faulty economic analyses often assume incorrectly that the full price paid by the “wind farm” owners or employees for goods and services purchased in a state or locality results in state or *local* economic benefits.⁴⁶

Such assumptions are incorrect because they ignore the fact that part – generally a large part -- of the price paid to a local supplier has to be paid out by that local supplier to someone else, often located outside the local area. The money paid out is a part of the local supplier’s cost of acquiring the goods (e.g., the purchase of fuel, wiring, cement) that the local supplier is reselling to the “wind farm.”

The only portion of the price paid by the “wind farm” that should be counted is the difference between the local supplier’s cost and the price he or she charges; i.e., the “value added” portion. Furthermore, it should be noted that if the local business providing the goods and services to a “wind farm” is not locally owned, the portion of the “value added” that is profit to the owner may also flow outside the local area and, therefore, not contribute to any local economic benefit.

3. Overstating local value of land rental payments. Faulty analyses often assume incorrectly that all land rental payments (i.e. land for turbines, substation, lines) should be counted as a local economic benefit. This assumption could be justified only if the land is locally owned AND the income from the rental payments is spent locally. There would be little or no local economic benefit from the land rental payments if:
 - a. The payments go to an absentee land owner, OR
 - b. The money is spent or invested outside the area (e.g., in a mutual fund managed in some distant city that invests in stocks or bonds having no local connection).
4. Failure to consider costs that offset benefits. The model focuses only on potential *benefits* and fails to consider *costs* that will be borne in the state or locality if a “wind farm” is constructed. Three examples of such costs deserve particular attention:
 - a. *Counting state and/or local taxes without counting costs incurred by state and local governments because a wind farm is constructed.* Faulty economic analyses count as an economic benefit state or local taxes that may be paid by a “wind farm” owner. However, analyses often fail to offset that revenue with costs incurred by state or local governments because a “wind farm” is built. Without question, governments will incur costs to provide facilities and services required by the “wind farm,” or its owner and employees, or local people, if any, filling the jobs that would be created “indirectly” or “induced.” Such costs would include:

- 1) Building and/or repairing roads required to transport equipment, materials and supplies to the site. A lot of heavy equipment, materials (e.g., tons of rebar, crushed stone, and cement) must be hauled to the site. (Materials that are produced locally and jobs filled by local workers – such as truck drivers – would legitimately be counted as potential economic benefits during the construction period.⁴⁷⁾
 - 2) Police and fire protection.
 - 3) Education and social service costs for workers and their families.
5. Potential adverse impact on environmental, ecological, scenic and property values, business income and other factors because of the existence of a “wind farm.” Reports from areas with “wind farms” in the US and Europe increasingly show concerns about adverse impacts on scenic and property values, and strong adverse citizen opposition to having to live near “wind farms” because of lights, noise, “blade flicker” and other annoyances. Environmentalists are also concerned about adverse impacts on birds, bats, wildlife and other ecological values. Some people are also concerned about the potential loss of business and adverse impact on tourism and retirement or second home purchases in areas affected by “wind farms.” Economic “analyses” touted by wind advocates seldom consider any of these costs.
6. Higher electricity costs imposed on electric customers via monthly bills. No one disputes the fact that the true cost of electricity from wind is higher than the cost of electricity produced from traditional energy sources. Those higher costs are passed through in some way to electric customers via monthly bills.

As indicated earlier, if the 150 MW “wind farm” being considered for Butler County, Kansas were to be built and it achieves a capacity factor of 40%, it would produce 525,600,000 kilowatt-hours (kWh)⁴⁸ electricity each year (i.e., 150,000 kW x 8760 hours in year x .40 capacity factor). If the final delivered price of that electricity for electric customers was only \$0.02 per kWh more than electricity from other sources, the added cost to consumers annually would be \$10,512,000 per year.

When consumers are required to pay higher electricity bills they have less money to spend on other needs such as food, shelter, clothing education or health care. They will have less to spend in hardware stores, dry cleaners, movies, and appliance stores. These are costs and adverse economic impacts that should be considered in a legitimate, objective economic analysis.

- C. **“Winners” and “Losers.”** “Wind farms’ create economic “winners” and “losers.” That is, significant amounts of wealth (money) and tax burden are transferred from one organization or group of people to others. Specifically, when a “wind farm” is built:
1. “Wind farm” owners are the overwhelming “winners” due, primarily, to the enormous tax benefits and other subsidies summarized earlier in this paper – which are in addition to income the owners receive from the sale of electricity that is produced.

2. Landowners who lease land for wind turbines are generally “small” “winners” because they receive income that they would not otherwise have. However:
 - The amount of lease income they receive is overwhelmed by the higher electricity prices that are imposed on electric customers who pay for the “wind farm” output. (In effect, a “beggar thy neighbor” benefit.)
 - The landowners may be subject to onerous contract provisions that they do not recognize when they sign the lease agreements. Also, landowners may find themselves responsible for the costs of removing (“decommissioning”) the huge structures if they are no longer useful to or are abandoned by the “wind farm” owner (as occurred in California). These risks will be discussed in more detail later in this report.
3. Electric customers are big “losers” because they end up paying the higher cost of electricity produced from the “wind farms.”
4. Ordinary taxpayers are big “losers” because they end up bearing the burden of taxes that are escaped by “wind farm” owners because of all the available tax breaks and subsidies.

D. “Wind farms” in Kansas (or other states) owned by out-of-state companies will almost certainly result in a net economic loss to the state. State government officials in states that have encouraged “wind farms” have, probably unknowingly, done a large disservice to the people of their states because they have not understood the real economic implications of “wind farms.” One Kansas official⁴⁹ has even been quoted as claiming that a “wind farm” will provide large economic benefits for a state.

It is amazing, with all the brain-power available in colleges and universities in states where “wind farms are proposed (particularly in their economics departments), that no one has done the relatively simple analyses that would show the real economic implications of “wind farms” and help the people in state governments (executive departments, legislatures and, public utility commissions) understand the economic facts.

When the facts – listed below -- are considered carefully, it will be seen that any “wind farm” owned by an out-of-state company (and, probably, some owned by in-state companies) will result in a net economic loss to the state’s economy. To make this point clear, some of the points made in section II. B., above, will be repeated here.

1. The high capital cost of a “wind farm” – such as the \$190 million project planned for Butler County -- is not a \$190 million contribution to the economy of Kansas. An overwhelming share of that \$190 million (perhaps 75-85%) will be spent outside Kansas for turbines, blades, towers, electronics, cables and other equipment. Very little of the equipment and material will be produced, or have value added, in Kansas. There are a few exceptions (e.g., sand and gravel for the concrete foundations for the towers).

2. Kansas exempts wind energy equipment from property taxes. Any voluntary contributions or payments made in lieu of taxes are likely to have less value than the foregone property taxes. However, the state or local governments will incur costs due to a "wind farm" construction and operation (e.g., road construction and repair, police and fire protection).
3. Few of temporary jobs during the 6-12 month "wind farm" construction period would be filled by Kansans. The higher paid jobs will be filled by people imported temporarily. There will be some jobs for local people (e.g., truck drivers, laborers). Iowa's Department of Natural Resources found that, in the "Top of Iowa Wind Farm" only 20 of 200 temporary construction jobs were filled by local residents.
4. Few permanent jobs would be created. Probably less than 15 for the Butler County project, with some skilled workers brought in temporarily for maintenance and repair work.
5. Temporary workers who are imported probably will be paying income tax on their wages in their home states.
6. There will be little "indirect" or continuing economic benefits. Jobs (e.g., in restaurants, motels) and economic activity during construction will be temporary. Few of the materials and supplies required on a continuing basis will be produced in Kansas and the value added in Kansas will not provide a significant economic benefit.
7. The rental income for landowners who lease land for wind turbines will be very small compared to the added cost of electricity that will be passed along to electric customers. The arithmetic demonstrating this is simple:
 - a. Assume, that the owner of the 150 megawatt (MW) Butler County "wind farm" will pay rent of \$5,000 per MW of turbine capacity each year or a total of \$750,000 in annual land rental income (i.e., 150 x \$5,000).
 - b. Assume also that the wind turbines would produce electricity equal to 40% of their "rated" capacity (i.e., a 40% "capacity factor"). The annual electricity output for the "wind farm" would be 525,600,000 kilowatt-hours (i.e., 150,000 kW x 8760 hours per year x 40%).
 - c. The true cost of electricity from wind is higher than electricity from other energy sources in Kansas. If the electricity produced by the Butler County project when delivered to electric customers costs only \$0.02 per kWh more than they would otherwise pay, the annual *addition* to the electric bills of the people of Kansas will be \$10,512,000 (i.e., 525,600,000 kWh x \$0.02 per kWh)

That \$10,512,000 per year addition to electric bills is more than 14 times the annual rental income received by the few fortunate landowners.

That \$10,512,000 in higher electric bills also means that the people of Kansas have \$10,512,000 less to spend in Kansas on food, clothing, shelter, medical expenses, education, or in the local hardware store, gas station, or other retail establishment.

8. Perhaps most important, it appears that all the “wind farms” proposed in Kansas would be owned by out-of state companies. That means that the out-of-state companies – not companies or people in Kansas -- would benefit from the extremely generous tax benefits for “wind farms” listed earlier (Section II.A.). Remember that the federal tax benefits alone have been estimated as providing to their owners 2/3 of the value of “wind farm” projects.⁵⁰ Of course, the money paid for the electricity produced by the “wind farm” also flows to the out-of-state owner.
9. Finally, an out-of-state “wind farm” owner may pay Kansas very little corporate income tax. Apparently, the generous federal deduction from corporate income for accelerated depreciation also serves to reduce the amount of income subject to the Kansas corporate income tax.

When all the true economic costs and benefits are added up, a “wind farm” in Kansas almost certainly results in a net economic loss for Kansas.

- E. Understanding wind energy requires following the “wind farm” money.** A lot of information and assumptions are necessary to do a comprehensive and detailed analysis of the true state and local impact of a “wind farm.” Unfortunately, such a complete analysis cannot be done as a part of this report. However, as indicated earlier, two spreadsheets are attached to this report – one for the Gray County Wind Farm and another for the proposed Elk River project in Butler County, KS.

Only those numbers that can reasonably be estimated from available data are shown on these spreadsheets. The numbers that are shown are quite overwhelming. The spreadsheets provide a framework that could be used by government officials in Kansas to fill in the missing information and then have in one place all the essential data on the flow of money during the first 10 years of a “wind farm.” Similar tables could be compiled on projects in other states.

- F. Wind energy advocates falsely claim that wind energy does not get its fair share of tax breaks and other subsidies.** As explained earlier, federal, state and local tax breaks have made “tax avoidance” the primary motivation for building “wind farms.” Also, explained earlier was the fact that tax breaks and subsidies generally distort economic decisions by steering investment dollars into low productive investments and transfer wealth from ordinary taxpayers and electric companies to “wind farm” owners.

The wind industry, DOE-EERE, NREL and the organizations they fund with our tax dollars claim otherwise. They claim, falsely, that wind energy still does not get its “fair share” of tax breaks and other subsidies.

Ideally, all federal, state and local subsidies that distort investments and transfer wealth from ordinary taxpayers to special interests would be abolished but, unfortunately, those special interests seem to have a strangle hold on politicians at all levels of government.

In any case, it is important to recognize that the wind industry's claim is false when tax breaks and subsidies for various energy industries are evaluated objectively. The facts on this comparison are presented in a separate paper.⁵¹ In summary, *when considered in light of either its existing or potential contribution to US energy requirements*, wind energy is among the most – if not THE most heavily subsidized of all energy sources in the US. For example, preliminary analysis shows that:

- Wind energy tax breaks and subsidies probably exceeded \$300,000,000 during 2002.
- EIA projects that wind energy's contribution will grow but will be less than 1% of US energy requirements by 2025.
- EIA projects that fossil fuels will, by 2025, still provide more than 200 times the energy for the US economy that wind will provide.
- Fossil energy sources would need to receive tax breaks and subsidies totaling \$60,000,000,000 (i.e., \$60 billion) annually to be "treated equally" with wind energy (i.e., 200 x \$300,000,000).

III. What SHOULD State government officials be doing to protect The interests of the people of the state when "wind farms" are proposed?

When considering the actions taken by many state governments to encourage construction of wind energy facilities, it becomes very clear that many government officials have been "taken in" by the false and misleading information distributed during the past decade or more by the wind industry, DOE-EERE, NREL and other wind advocates.

This has led to the enormous tax breaks and other subsidies that were catalogued earlier in this report. Surprisingly, the Kansas Energy Commission has recommended *even more* subsidies.

State government officials need to know that they are acting contrary to the interests of electric customers and taxpayers when they push to increase the use of "wind energy." They also need to know that there are a number of steps that *could* be taken to protect the people of their states. Among the steps that should be taken are the following:

- A. Reorienting state utility commissions to the protection of consumers' interests.** A principal reason for the initial creation of state public utility commissions was to help protect consumers against unreasonably high prices and other practices that might be imposed by utilities that had monopoly power over their customers. Some state commissions seem to have forgotten this fundamental purpose and have focused heavily on other objectives, including those that increase customers' costs. Forcing or encouraging utilities to provide high-cost electricity generated from "renewable" energy sources is one such action.

In addition, it appears that some commission members and staff simply are not equipped to understand the economic and technical (let alone the environmental and ecological)

implications of “wind energy” and, therefore are easily misled by the false information and half-truths distributed by the wind industry, DOE-EERE, NREL and other wind advocates.

B. Provide protection against aggressive “wind farm” developers. Developers of “wind farms” have proven to be highly aggressive in:

- Lobbying state legislatures, governors and state agencies (in addition to their demonstrated influence in Washington, DC, with members of Congress, DOE-DDRE, and NREL).
- Dealing with local government officials who have authority to approve the location of “wind farms” and associated facilities.
- Dealing with owners of land where wind turbines and related facilities would be built.
- Confronting citizens who oppose the proposed locations of “wind farms.”

There are actions that state governments could take to help protect the interests of citizens, consumers and taxpayers in each of these cases. In some cases, the report of the Kansas Energy Commission (KEC) illustrates a problem needing attention but, clearly, Kansas is not the only state where deficiencies exist.

1. Actions at State Government level. The highly favorable treatment that the wind industry has already obtained at state government levels illustrates the power of wind advocates. However, it is not too late for governors and legislators to begin protecting the interests of ordinary citizens, consumers and taxpayers when “wind farms” are proposed. Actions that could be taken include:
 - *Strengthening state level analytical capabilities.* The report submitted by the Kansas Energy Council (KEC) demonstrates that members of the Council and its staff do not understand the facts about and implications of wind energy.
 - *Requiring cost benefit analyses.* As noted earlier, the KEC report provides no evidence that benefits, risks and costs of the KEC recommendations were analyzed.
 - *Tightening conflict of interest measures.* Again, the KEC report is an illustration. Representatives of various interests that would benefit from the adoption of KEC recommendations served as members of the Council.
 - *Protecting citizens from state government staff biases.* State employees in some states appear to be more interested in aiding certain *special interests* and/or their own *personal philosophies* than they are in protecting the interests of ordinary citizens, consumers and taxpayers. For example, the problem of staff biases has appeared particularly significant in some Wisconsin state government agencies.
 - *Assisting local governments, landowners and other citizens,* as outlined below.
2. Assisting local governments in dealing with “wind farm” developers. Clearly, most local governments are not equipped to deal with the aggressiveness of “wind farm” developers or to evaluate the technical, economic, environmental and energy implications of “wind farms.” This is particularly true when wind industry lobbyists have already pushed tax breaks, subsidies, and other measures favorable to “wind farm” owners through state legislatures.

“Wind farm” developers may be especially aggressive in dealing with local government officials who are unfamiliar with the issues presented and don’t have the resources to retain people who could help in their evaluations. In some cases, developers work “behind the scenes” to secure a local government official’s support before details of the project are made public and the implications understood. Once committed, a local government official may be unwilling to change his or her position.

Local governments and school districts are especially vulnerable in states like Kansas where “wind farm” equipment has been exempt from property taxes. Some local government officials have approved permits for “wind farms” in return for special payments or contributions from “wind farm” owners. Such payments may be “one time only” and generally are significantly less than the tax revenue foregone by the tax breaks given to developers.

Some state and local officials may believe that “wind farms” will provide significant local or state economic benefits. However, as explained earlier, any such benefits have been greatly overestimated by the wind industry, DOE-EERE, NREL and other wind energy advocates.

State government should take action to protect citizens’ interests with such measures as the following:

- *Adopting and/or strengthening zoning laws.* Some areas where “wind farms” are proposed are not protected by zoning laws.
- *Providing assistance in the evaluation of “wind farm” proposals.* Most local government officials cannot reasonably be expected to have the expertise to deal with the complex technical, economic, environmental and legal issues presented by proposed “wind farms.” State financial assistance should be made available to local governments confronted by proposals so that objective expertise can be retained.
- *Requiring open meetings.* Many states have “open meeting” laws to help assure that citizens are not “kept in the dark” and/or denied due process by government officials who may, as individuals or a group, meet out of public view with “wind farm” developers or who meet as a group to discuss proposals. Experience in several states demonstrates that such laws, perhaps with much stiffer penalties, are needed in the case of “wind farm” developers to protect citizens’ interests.
- *Requiring open records, on a timely basis.* In some cases, local officials (e.g., town clerks) are slow in providing full public access on a timely basis to all pertinent records, again denying due process. State laws could be tightened to help protect citizens’ interests, perhaps with tougher penalties for town clerks and other officials if they do not make records available in a timely matter.

- *Tightening conflict of interest laws.* Some “wind farm” developers have demonstrated a special ability to create conflict of interest situations for local government officials. In Wisconsin, a “wind farm” developer pleaded “no contest” and paid a fine because one of the developer’s agents had attempted to influence a local election where action on the developer’s permit was a key factor distinguishing the positions of competing candidates.

There have been cases where a “wind farm” developer offered to lease land for erection of one or more wind turbines from a member of a local government body that has jurisdiction over permits and approvals required by the developer. When this occurs, the local official has a personal financial interest in the decisions that the local government body makes on the “wind farm” developer’s proposals.

Clearly, local officials or their families should not be permitted to profit personally from a decision made by the official while acting in his official capacity. If they do not already do so, state laws should be enacted to require local officials to recuse themselves in such situations, and should apply stiff penalties for violations.

Also, local governments should adopt procedures to preclude officials from accepting anything of value from “wind farm” developers or that might otherwise create an actual or perceived conflict of interest. State laws should be enacted or strengthened to impose penalties on “wind farm” developers who offer, and public officials who accept anything of value that might impair the official’s objectivity in carrying out official duties.

3. Protecting landowners from aggressive “wind farm” developer techniques. As explained earlier, landowners who lease land to “wind farm” developers for erection of wind turbines may be “winners” because they receive payments that would not otherwise be available – but they enter into such agreements at their neighbor’s expense. Further, they will be “winners” only if they receive fair compensation, recognize the risks and disadvantages as well as the advantages, and have adequate protection in the contracts they sign.

Landowners are significantly at risk because “wind farm” developers often are very aggressive, and highly skilled in dealing with landowners who are not familiar with the particular deals offered by the developers. “Wind farm” developers and owners have substantial financial resources available to them which permit them to retain lawyers, “land men” and consultants who can deal aggressively with landowners, local government officials, and those who would be adversely affected by a “wind farm.”

Ideally, the landowners would take the actions necessary to protect themselves but, almost certainly, they are not well equipped to deal with aggressive developers and may sign agreements that are detrimental to their own interests and the interests of their neighbors. State and/or local governments may want to provide help to landowners – particularly legal assistance.

The first thing that a landowner should consider is obtaining a GOOD contract lawyer who will work to protect his interest in his dealings with wind developers. Ideally, he would join with other landowners in retaining a lawyer so that he can minimize his legal costs. ~~The landowner should insist on the right to consult with other landowners and refuse any attempt by the developer to restrict such consultations.~~

There are several ways a landowner may be seriously disadvantaged by agreeing to a "wind farm" developers' proposals. Among the risks that a landowner needs to consider are the following:

- a. The organization that ends up owning the "wind farm" and who will be making the rental or royalty payments is almost certain to be a single asset LLC; i.e., a Limited Liability Company that has no assets other than the "wind farm." This could be a problem if the LLC goes into bankruptcy.
- b. The huge tax benefits that are available to "wind farm" owners occur in the early years of the "wind farm's" life (i.e., 5-6 years for accelerated depreciation; 10-years for the wind "Production Tax Credit." The practical effect of this is that the incentive to sell or abandon the "wind farm" grows substantially as time passes, particularly if maintenance, repair and replacement costs grow.
- c. Unless the "wind farm" developer is a company with significant income to shelter from taxes, experience in the US demonstrates that the developer is likely to sell his interests to a company that can take advantage of all the tax breaks. Furthermore, the landowner should be aware that there is a good chance that the "wind farm" will be resold to a new owner after the initial owner captures the tax breaks. In fact, a new owner of an older "wind farm" can, under existing tax law, also take advantage of the 5-year accelerated depreciation tax break described earlier. "Churning" of ownership may occur.
- d. No one knows either (i) how long wind turbines now being installed will last or (ii) what their long-term maintenance, repair and replacement costs will be. Turbines of the types now being installed generally have not been in operation for even 5-years. Therefore, royalties and rents based on future wind turbine performance are speculative because long-term operation and performance isn't assured. Also, deterioration in wind turbine performance increases the chance that the owner will shut down one or more wind turbines that do not perform well or perhaps abandon the whole "wind farm." Rental or royalty payments based on turbine performance may be worthless unless the "wind farm" owner commits to maintain a high level of performance (i.e., kilowatt-hours delivered).
- e. "Wind farm" developers may overestimate potential future "wind turbine" output (i.e., the kilowatt-hours that will be produced). Sometimes they base their claims on output achieved in winter months when winds tend to be strongest.

- f. Costs of removing wind turbines, blades, towers, and tower bases and restoring land – so-called “decommissioning costs” – are likely to be significant. In view of the risks listed above, probably the only way of assuring that money is available from the developer for that purpose is to require posting a CASH bond in advance that would be held by an independent third party in escrow. A cash bond held by the “wind farm” owner would likely be part of the assets available to all creditors if the LLC went into bankruptcy. A surety bond may be available only as long as premiums are paid.
- g. Payments offered by “wind farm” developers may be quite low. Landowners should be aware that annual payments of \$5,000 per megawatt (MW) are not uncommon and payments as high as \$15,000 may have been offered in at least one case. As explained earlier, “wind farms” can be highly profitable for their owners – particularly due to federal, state and local tax benefits. Thus, landowners shouldn't be reticent about insisting on fair compensation.
- h. Landowners need to be fully aware of what they are giving up when signing contracts or lease agreements. For example:
- At least one agreement offered by a developer would give the developer a 5-year option to lease the land, a 20-year lease, and a unilateral right for the developer to extend the lease for two additional 5-year periods. Some contracts may not even have ending dates. Whether the developer would pay for the options wasn't clear in the proposed contract.
 - Some contracts offered by developers/owners apparently would give the developer full “air rights” to many acres of property – not just the area covered by the “footprint” of the turbine and ancillary facilities. As a practical matter, the landowner might be prevented from undertaking or permitting any other development on his or her property.
- i. Landowners should not be misled by alleged small “foot prints” of wind turbines. Potential blade and ice “throw” should also be considered. Substantial setbacks are necessary from dwellings, other buildings, roads, parks, wildlife habitat and other valued land uses.
- j. Noise or other environmental or ecological impacts (e.g., bird and bat kills) of the wind turbines are real concerns. Some “wind farm” developers have sought “noise easements” so that landowners or their neighbors do not seek financial redress for lost property value.
4. Protecting the interests of citizens threatened by proposed “wind farms.” Clearly, citizens are at risk in states where officials have already acted to promote wind energy. This is particularly true in states that have adopted insidious “Renewable Portfolio Standards” that force electricity providers to assure some minimum percentage of the electricity that they sell has been generated by using “renewable” energy, thereby

guaranteeing a market and, usually, high prices for owners of renewable energy facilities.

In such states, state employees – paid with tax dollars – may openly support “wind farm” developers rather than the interests of the state’s citizens.

Several states – such as New York, Massachusetts, California, Minnesota and Wisconsin -- add a so-called “public benefit charge” (really, another tax, but collected via electric bills) to customers’ monthly electric bills and then use the customers’ money to assist “wind farm” developers in pushing through their projects over the objection of people who are concerned about adverse impacts on environmental, ecological, scenic or property values! In New York, millions of dollars have been offered to “wind farm” developers with those monies coming from the “public benefit” funds that are extracted from the pockets of ordinary electric customers.

As a minimum, state government should set provide funds for the exclusive use of citizen groups who wish to intervene in state or local proceedings where proposed “wind farms” are considered and who wish to retain lawyers and expert witnesses to help defend them against “wind farm” developers.

IV. Conclusions

Without question, the wind industry has been extremely effective in “selling” wind energy to the public, media and government officials. The wind industry has had significant help from the US DOE’s Energy’s Office of Energy Efficiency and Renewable Energy, the National Renewable Energy “Laboratory” (NREL), other DOE and NREL contractors, and other wind advocates.

Claims made by these organizations clearly have been false and/or misleading. “Half-truths” are common. Sadly, much of the misinformation has been financed by tax dollars flowing through DOE-EERE.

The promoters of wind energy have been so successful that the phrase “increase use of wind energy” has become a mantra spoken by politicians of all persuasions in federal and state administrations and legislatures. Speeches made by some members of Congress and other political leaders are little different from those made by wind industry leaders. Some probably have been written by wind industry lobbyists.

Quite likely, most political leaders who repeat the wind industry’s claims do not even recognize that the facts do not support the wind advocates claims. There is no evidence that political leaders are aware of the enormity of the subsidies that they have lavished on the wind industry.

Unfortunately, most political leaders in the federal and state governments and their staffs do not have the desire, expertise or the time to evaluate the veracity of wind industry claims. They merely accept the claims as fact (perhaps along with campaign contributions).

For years, most reporters in the general press and the energy press have tended to accept claims made by the wind industry, DOE-EERE, NREL and other wind advocates. Their “stories” essentially parrot the press releases and other information issued by these organizations. Only recently have a few investigative reporters and editorial boards begun to recognize that there are “two sides” to the story and that adverse effects - not just claimed benefits - should be reported.

On the other hand, a few political leaders *may* really understand the limited merits and adverse impacts of wind energy but find it easier or convenient to speak favorably of wind energy to escape political attacks by wind advocates and that portion of the “environmental community” that still favors wind energy. Other political leaders may speak favorably about wind energy to give an appearance of being “balanced” while they are working in support of meaningful and effective actions to increase energy supplies. Whatever the reasons, the current political support for wind energy results in bad public policy.

Citizens, consumers and taxpayers who understand the adverse impacts of wind energy must accept the fact that they face an uphill fight in getting political leaders to understand the truths about wind energy. Fortunately, the truths about wind energy have begun to emerge - largely as a result of:

Citizen groups that have sprung up in the US, UK, Continental Europe, Australia and New Zealand to fight wind energy threats to environmental, scenic and property values.

Electric customers in Europe who are seeing large increase in electricity prices caused by government efforts to force more use of wind energy.

Electric companies in Europe that are faced with additional transmission capacity and grid management cost due to increased use of wind turbines.

Government officials in Europe who now realize that greater reliance on “renewable energy” will not help significantly in meeting their Kyoto commitments.

Citizens, consumers and taxpayers face an uphill fight to reverse government policies that unwisely promote “wind energy,” but these underrepresented interest groups have strong reasons for pressing their representatives at all levels of government to do just that. Eventually, political leaders will be forced to face the truths about wind energy as the drum-beat of citizen-led grass roots voices get louder.

Citizens, consumers and taxpayers should not be deterred from pressing federal, state and local officials to (i) recognize the facts about wind energy, (ii) change government policies to protect the interests of consumers, taxpayers and the environment, and (iii) resist the demands of “wind farm” developers and owners.

Whenever possible they should confront their representatives personally. But they should also not stop writing, emailing and calling their representatives offices, even when the replies they receive are factually incorrect, make no sense at all, or sound like they were written by the wind industry, DOE-EERE, or NREL. (Perhaps they were.)

About the Author

GLENN R. SCHLEEDE is semi-retired after working on energy and related matters in government and the private sector for over 30 years. He now devotes a large share of his time to *self-financed* analysis and writing about (a) government policies and programs that are detrimental to consumers and taxpayers, and (b) government or private sector activities that are presented to the media, public and government officials in a false or misleading way.

From 1992 until September 2003, Schleede maintained a consulting practice, Energy Market and Policy Analysis, Inc. (EMPA), providing analysis of energy markets and policies. During that time he worked primarily on natural gas and electricity issues.

Prior to forming EMPA, Schleede was Vice President of New England Electric System (NEES), Westborough, MA, and President of its fuels subsidiary, New England Energy Incorporated. His time with NEES included responsibilities for procurement and transportation of coal, natural gas and oil for NEES facilities, NEEI's oil and gas exploration and coal shipping ventures, and NEES economic planning and budgeting functions.

Previously, Schleede was Executive Associate Director of the U.S. Office of Management and Budget (1981), Senior VP of the National Coal Association in Washington (1977-1981) and Associate Director (Energy and Science) of the White House Domestic Council (1973-1977). He also held career service positions in the U.S. OMB and the U.S. Atomic Energy Commission. He has a BA degree from Gustavus Adolphus College and an MA from the University of Minnesota. He is also a graduate of Harvard Business School's Advanced Management Program.

Schleede is the author of many papers and reports on energy matters. His articles appear in various journals and/or are covered in the energy trade press. Some appear in full text on various public policy group web sites. Since 2001, Schleede has analyzed and written a lot about wind energy. The facts (a) have convinced him that wind turbines are a niche technology that would never make a significant contribution toward meeting US energy requirements, and (b) demonstrated that the US DOE's Office of Energy Efficiency & Renewable Energy (DOE-EERE); the National Renewable Energy "Laboratory" (NREL) and other DOE contractors, *using tax dollars*, distribute false and misleading information on wind energy.

Schleede has been a frequent target of ad hominem attacks by officials from the wind industry as well as NREL and other DOE-EERE contractors. Their attacks seldom deal with the substantive issues he raises. AWEA and other DOE funded organizations (using tax dollars that flow through DOE-EERE) have claimed falsely that Schleede works for fossil-fuel industries. In response, Schleede notes that their claims are false and that ALL his work on wind energy has been self-financed. He has offered leaders of the attacking organizations (including NREL) the opportunity to review all his personal and business financial records, provided that (a) the work is done by an independent third party who can assure appropriate confidentiality of information and (b) the work is paid for by the individual and organization making the charges and is not reimbursed by DOE or otherwise paid for by using more tax dollars.

Endnotes:

¹ Key parts of the report addressing wind energy issues and recommended actions are found on pp.1, 3-4, 7-10, 18, 21, 27, 28, 29, 33, and 35-39.

² The report “leaps” *from* the presenting data on energy supply and demand, and perceived challenges *to* a set of specific recommendations without providing analysis that might support those recommendations.

³ Kansas Energy Commission report, “Kansas Energy Report 2005,” page 7. (For brevity, two footnotes citing the source of the claims have been omitted. Those footnotes cite reports from Pacific Northwest “Laboratory” (1993), “US Public Interest Research Group,” and the US General Accounting Office.

⁴ The false claim about wind in the Great Plains is similar to a once-popular assertion that oil shale in the US could supply US petroleum needs for decades.

⁵ The “capacity factor” of a wind turbine or other electric generating unit is determined by dividing its output, in kilowatt-hours (kWh), by the unit’s rated capacity (in kilowatts – kW) x the number of hours in a period (e.g., 8760 to calculate an annual capacity factor. The same calculation can be done using megawatt-hours (MWh) and megawatts of rated capacity (MW).

⁶ US Energy Information Administration (EIA), State Electricity Profiles 2002, p. 73, Table 1.

⁷ EIA, Electric Power Annual 2003, page 8, Table 1.1. About 1,045,000 of these turbines would be required to produce the number of kilowatts of generation (5,497,000,000,000) EIA expects in the US by the year 2025.

⁸ Electricity grids must be kept in balance (e.g., supply-demand; voltage, frequency). In effect, electricity is produced as it is used. An electric generating unit is considered “dispatchable” when it is needed to produce electricity and can be called upon by those managing an electric grid.

⁹ About 83% of the 6,740 megawatts (MW) of currently operable wind turbine capacity is located in nine states: California, Texas, Minnesota, Iowa, Wyoming, Oregon, Washington, Colorado and New Mexico

¹⁰ Over 15,000 windmills were built in California during the 1980s due to a generous federal investment tax credit. Many of those windmills have been abandoned and many have been torn down.

¹¹ That is, total capacity of 6,740,000 kW x 8760 hours per year x .25 capacity factor.

¹² The EIA forecast that wind will provide less than 1% of US electricity by 2025 is based on EIA’s Annual Energy Outlook. It should be noted that the staff of the US Senate Committee on Energy & Natural Resources – a long-time supporter of high subsidies for the wind energy industry, has indicated recently that EIA has estimated that extending the wind “production tax credit from 2005 to 2015 would result in “...42,000 1.5 MW windmills installed in the US by 2025, covering 3,750 square miles...[and]... would generate 206 billion kWh of electricity per year, meeting 3.7 percent of US’ electricity demand in 2025. A preliminary estimate of the addition to the national deficit of such an action is in the range of \$35 to \$40 billion. While those results might be produced by EIA’s National Energy Modeling System, they do not take into account the feasibility of installing that much wind generating capacity in the US – which would be virtually impossible, recognizing the growing opposition to “wind farms.”

¹³ The term “capacity value” – which is measured in MW or kW -- contrasts with electric industry use of the term “energy” – measured in MWh or kWh -- when referring to the two different potential values of a generating unit. “Energy” refers to the kWh produced and/or delivered to customers.

¹⁴ Perhaps, but not necessarily, operating under “automatic generation control” (AGC).

¹⁵ Two “studies” are often cited by wind advocates to support their claim that property values are NOT adversely affected; one by an organization in the Pacific Northwest that dealt with a “wind farm” proposed in Washington’s Kittitas Valley and the other by a group called the “Renewable Energy Policy Project.” Both of these studies have been thoroughly discredited because they used faulty methodology, were conducted and/or sponsored by organizations strongly favoring wind energy, and their claims defied common sense and experience of property owners that have been reported in several countries.

¹⁶ http://www.eere.energy.gov/windandhydro/windpoweringamerica/pdfs/wpa/wpa_update.pdf

¹⁷ “Capacity factor” of a wind turbine or “wind farm” is determined by dividing actual (measured) output in kilowatt-hours (kWh) from a turbine (or “wind farm”) by the rated capacity of the facility x the hours in the period being measured; e.g., 8760 hours when calculating an annual capacity factor.

¹⁸ 20 year overnight capital cost calculation: 1,500 kW x 8760 hours in a year x .35 average annual capacity factor x 20 years = 91,980,000 kWh. \$1.5 million divided by 91,980,000 = \$0.01087 per kWh. 10-year calculation: 1,500 x 8760 hours in a year x .35 x 10 years = 45,990,000 kWh. \$1.5 million divided by 45,990,000 = \$0.02174 per kWh.

¹⁹ Presentation on December 15, 2004, by Mr. Ed Feo to the Renewable Energy Resources Committee of the American Bar Association: <http://www.abanet.org/environ/committees/renewableenergy/teleconarchives/121504/>

²⁰ Citizens for Tax Justice, "Bush Policies Drive Surge in Corporate Tax Freeloading; 82 Big U.S. Corporations Paid No Tax in One or More Bush Years," September 22, 2004. <http://www.ctj.org/corpfed04an.pdf> A more detailed 68-page report on the organization's analysis can be found at <http://www.ctj.org/corpfed04an.pdf>

²¹ http://www.fplgroup.com/reports/contents/annual_reports.shtml

²² For example, www.countryguardian.net. A very useful narrative summary of problems experienced in other countries can be found on the web site www.GreenBerkshires.org.

²³ Apparently, a large amount, perhaps 20%, of the electricity generated in Denmark comes from wind turbines but production is greatest at night and in winter when competing electricity is available from combined heat and power (CHP) units. The wind-generated electricity is "dumped" on surrounding grids at very low prices and then more expensive electricity is bought during the day from surrounding grids but at higher prices. One study indicates that, in the final analysis, electric customers in Denmark get less than 4% of their electricity from wind.

²⁴ E.ON Netz, Wind Report 2004. http://www.eon-netz.com/frameset_reloader_homepage.phtml?top=Ressources/frame_head_eng.jsp&bottom=frameset_english/energy_eng/ene_windenergy_eng/ene_windenergy_eng.jsp

²⁵ See Internal Revenue Service (IRS) Publication 946 for details.

²⁶ Simple cycle combustion turbines use 15-year, 150% declining balance depreciation for tax purposes.

²⁷ The Wichita Eagle, "Kansas' next wind farm, a \$190 million project in Butler . . .," Dec. 27, 2004, p. 1.

²⁸ If the "wind farm" was sold by the original owner for an amount larger than the remaining undepreciated balance, if any, the original owner could be taxed on the difference at ordinary income rates.

²⁹ DOE did offer payments to non-profit organizations that own wind energy facilities but are not required to pay income taxes. Owners of eligible facilities could collect a per kWh payment for the first 10 years of production comparable to the wind Production Tax Credit (i.e., originally \$0.015 per kWh, adjusted for inflation). The program, called the Renewable Energy Production Incentive (REPI) expired for new projects on December 31, 2003, but projects previously qualifying continue to receive payments. Allegedly, these payments for non-tax paying organizations would provide a subsidy comparable to the PTC for profit-making companies.

³⁰ Often the desired result is achieved when doing accounting for tax purposes by consolidating the financials of parent organization, subsidiaries (including limited liability companies) and/or affiliates (e.g., shares of partnerships or joint ventures).

³¹ Kansas Statute 79-201.

³² KEC, Kansas Energy Report 2005," pp. 37-38.

³³ *Ibid.*, p. 21.

³⁴ *Ibid.*, p. 10.

³⁵ *Ibid.*, pp. 8-10.

³⁶ *Ibid.*, pp. 35-36.

³⁷ *Ibid.*, p. 35

³⁸ <http://www.kdfa.org/pages/about.html>

³⁹ KEC, Kansas Energy Report 2005," p. 36.

⁴⁰ One analyst has reported that, in the UK, the value of "green energy" credits (called "Renewable Obligation Certificates" or ROC) may provide twice as much income as the electricity itself. <http://www.wind-farm.org/modules.php?op=modload&name=News&file=article&sid=20>

⁴¹ Schleede, Glenn R., "Errors and Excesses in NREL's JEDI-WIM Model that Provides Estimates of the State or Local Economic Impact of 'Wind Farms'," April 28, 2004.

⁴² DOE's government-owned, contractor-operated national "laboratories" undertake a variety of research, development and analytical activities. Virtually all of the activity is financed with tax dollars. Quite likely, the work in the "hard" sciences is objective, conducted in accordance with accepted scientific methods and engineering principles, and undergoes credible peer-review. Some of the national "laboratories," such as the National Renewable Energy "Laboratory" (NREL), also engage in analyses involving public policies, programs and regulations. Much of that work turns out not to be credibly objective, scientific or peer reviewed. Instead, these activities all too often appear biased and designed to promote a particular technology, policy, program, regulatory requirement, special interest, or perhaps even a personal philosophy. Such "analyses" often appear designed to support preconceived notions and conclusions. They are often driven by assumptions that virtually assure that the desired conclusion is reached. False claims are illustrated by NREL's "JEDI-Wind Impact Model" -- a "laboratory"

product that overstates economic benefits and understates or ignores costs -- in this case resulting in a faulty estimate of the potential local economic benefits of a "wind farm." Similar problems can be so-called "analyses" and reports produced by other organizations receiving tax dollars that flow through DOE and those produced by organizations such as the U.S. Public Interest Research Group (PIRG). The Kansas Energy Commission was remiss for not evaluating and detecting the false claims in the reports that it apparently relied on.

⁴³ In addition to overestimating jobs that would be filled locally and, therefore, the compensation that would be paid to local residents, the model -- in its calculation of indirect or induced effects -- appears to assume that the taxes on income will flow to the state or locality. When workers are imported for temporary or intermittent work, revenue from any income tax that they pay generally will flow to the government(s) in the state or locality where they reside -- not where they work temporarily.

⁴⁴ Iowa Department of Natural Resources, *Top of Iowa Wind Farm Case Study*, July 2003.

<http://www.state.ia.us/dnr/energy/MAIN/PROGRAMS/WIND/documents/topofiaWindFarmCaseStudy.pdf>

⁴⁵ Value added is defined by one economics textbook as "The difference between the value of goods produced and the cost of materials and supplies used in producing them. In a \$1 loaf of bread embodying \$0.60 worth of wheat and other materials, the value added is \$0.40. Value added consists of the wages, interest and profit components added to the output by a firm or industry." Samuelson, Paul A. and William Nordhaus, *Economics*, 14th Edit. p. 748.

⁴⁶ Unfortunately, this is a common mistake made in "input-output models" that purport to calculate state or local economic benefits.

⁴⁷ The total construction period reported in the *Top of Iowa Wind Farm Case Study* was less than 6 months.

⁴⁸ 565,600,000 kWh of electricity may sound like a lot but it is not. That amount of electricity is equal to 1.1% of the electricity produced in Kansas during 2002 (US Energy Information Administration data).

⁴⁹ Quotes from Kansas Governor's energy adviser <http://www.kansas.com/mld/eagle/news/local/10503909.htm>

⁵⁰ See Endnote 19 for detailed reference.

⁵¹ Schleede, Glenn R., "Facing up to the True Costs and Benefits of Wind Energy," June 24, 2004, pp. 16-17.

21-44

3/1/05 Summary of Estimated Tax Breaks and Potential Income from the Existing Gray County, KS, "Wind Farm."													
Notes: Data are not available to permit filling in many of the cells. Also, all numbers shown are estimates and based on assumptions. See the appropriate sections of the text for details on the assumptions and derivation of estimates. Some items ("wind farm" owner purchases in KS minus cost of same; Sales tax on purchases) are mere guesses. Also, no attempt has been made to adjust for changes in tax rates or inflation.													
Text Page	Construction Year	"Wind Farm" in Operation										10-yr. Total	
		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10		
GRAY COUNTY (KS) WIND FARM													
"Wind farm" Income from sale of electricity:													
Income if capacity factor is 40% (i.e., 393,148,800 kWh/yr.) electricity is sold at \$0.03 per kWh	18		11,794,464	11,794,464	11,794,464	11,794,464	11,794,464	11,794,464	11,794,464	11,794,464	11,794,464	11,794,464	117,944,640
Estimated Value of Subsidies to "wind farm" owner													
Federal:													
Reduction in Income tax liability:													
Reduction in Income tax liability:													
Due to deduction for accelerated depreciation *	12		7,854,000	12,566,400	7,539,840	4,523,904	4,523,904	2,261,952	-	-	-	-	39,270,000
Due to Federal Production Tax Credit assuming 40% cap.f.a	13-14		7,076,678	7,076,678	7,076,678	7,076,678	7,076,678	7,076,678	7,076,678	7,076,678	7,076,678	7,076,678	70,766,784
Subtotal - Federal subsidies for owner			14,930,678	19,643,078	14,616,518	11,600,582	11,600,582	9,338,630	7,076,678	7,076,678	7,076,678	7,076,678	110,036,784
Kansas													
Reduction in Kansas Corporate Income tax liability due to federal accelerated depreciation deduction **	15		1,649,340	2,638,944	1,583,366	950,020	950,020	475,010	-	-	-	-	8,246,700
Reduction in Property Taxes due to special exemption for wind equipment *** ##	15												
Subtotal - Existing Kansas tax breaks for owner			1,649,340	2,638,944	1,583,366	950,020	950,020	475,010	-	-	-	-	8,246,700
Proposed additional tax break: PTC of \$.005/kWh ****	16-18		1,965,744	1,965,744	1,965,744	1,965,744	1,965,744	1,965,744	1,965,744	1,965,744	1,965,744	1,965,744	19,657,440
Subtotal - Existing & proposed KS tax breaks			3,615,084	4,604,688	3,549,110	2,915,764	2,915,764	2,440,754	1,965,744	1,965,744	1,965,744	1,965,744	27,904,140
Potential subsidies - Data not available to estimate: ##													
Cost of backup generation for "wind farm" output	8												
Impact of Intermittent, variable output on transmission	8												
Cost of new transmission capacity shifted from "wind farm" owner to electric customers													
Increased burden of electric system (grid) management	8-9												
Subtotal for subsidies that are estimated			16,580,018	22,282,022	16,199,895	12,550,602	12,550,602	9,813,640	7,076,678	7,076,678	7,076,678	7,076,678	118,283,484
Potential for Increased tax receipts:													
"Wind farm" owner Income tax revenue: Data not available#	15												
Personal inc.tax due to wages, lease payments ##	24												
Sales tax due to "wind farm" purchases ##													
Increase in Property Taxes: NONE. Wind facilities exempt	15		0	0	0	0	0	0	0	0	0	0	0
Subtotal - for tax receipts estimated			-	-	-	-	-	-	-	-	-	-	-
Potential economic benefits for Kansas													
Rough estimates. Actual amount may be know by tax officials													
Wages for Kansans in construction ##	20												
Wages for permanent employees ##	20												
"wind farm" owners Purchases in KS (minus non-KS cost of same (i.e., "value added" in KS ##	20												
Rental payments for landowners ##	21												
Payments in lieu of taxes, if any ##	13												
Indirect benefits of above listed economic activity ##	24												
Subtotal - for items with estimates			-	-	-	-	-	-	-	-	-	-	-
Potential economic costs in Kansas													
Costs that cannot be estimated with available data ###													
Higher electricity costs for Kansas Customers****	22		5,557,551	5,557,551	5,557,551	5,557,551	5,557,551	5,557,551	5,557,551	5,557,551	5,557,551	5,557,551	55,575,514
Cost of roads, public safety & other local government services													
Impact on Tourism	21												
Impact on property values and related property taxes	21-22												
Loss of alternative economic development, if any	21-22												
Subtotal - for items with estimates			5,557,551	5,557,551	5,557,551	5,557,551	5,557,551	5,557,551	5,557,551	5,557,551	5,557,551	5,557,551	55,575,514

* Assumes that Capital Cost was \$1,000,000 per MW of capacity, marginal tax rate of 35%, and that owner took advantage of only the "normal" 5-year Double declining balance accelerated. ****\$600K is "estimate." Also, some landowners may be absentee.
 ** Assumes 7.35% marginal tax rate for Kansas Corporate Income Tax.
 *** Estimating the value to "wind farm" owners of the KS exemption from property tax for "renewable energy resource or technology property, including wind), is very difficult because of the complex process normally applied in the case of utilities (i.e., a process based on income producing value.) **** Assumes same electricity production as used for Federal PTC.
 ***** Assumes 7% line losses from estimated "wind farm" production, that all wind-generated electricity would be sold in Kansas and that the higher cost would be \$0.015 per kWh.
 # Will depend on how owner & parent report & shelter income for tax purposes. ##Data not available to make estimates.

21-48

3/1/05 Summary of Estimated Tax Breaks and Potential Income from the Proposed Elk River - Butler County, KS, "Wind Farm."

Notes: Data are not available to permit filling in many of the cells. Also, all numbers shown are estimates and based on assumptions. See the appropriate sections of the text for details on the assumptions and derivation of estimates. Some items ("Wind farm" owner purchases in KS minus cost of same; Sales tax on purchases) are mere guesses. Also, no attempt has been made to adjust for changes in tax rates or inflation

	Text Page	Construc- tion Year	"Wind Farm" in Operation										10-yr. Total
			Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	
ELK RIVER, BUTLER COUNTY (KS) WIND FARM													
"Wind farm" Income from sale of electricity:													
Income if capacity factor is 40% (i.e., 525,600,000 kWh) & electricity is sold at \$0.03 per kWh	18		15,768,000	15,768,000	15,768,000	15,768,000	15,768,000	15,768,000	15,768,000	15,768,000	15,768,000	15,768,000	157,680,000
Estimated Value of Subsidies to "wind farm" owner													
Federal:													
Reduction in income tax liability:													
Reduction in income tax liability:													
Due to deduction for accelerated depreciation *	12		13,300,000	21,280,000	12,768,000	7,660,800	7,660,800	3,830,400	-	-	-	-	66,500,000
Due to Federal Production Tax Credit assuming 40% cap.f.a	13-14		9,460,800	9,460,800	9,460,800	9,460,800	9,460,800	9,460,800	9,460,800	9,460,800	9,460,800	9,460,800	94,608,000
Subtotal - Federal subsidies for owner			22,760,800	30,740,800	22,228,800	17,121,600	17,121,600	13,291,200	9,460,800	9,460,800	9,460,800	9,460,800	161,108,000
Kansas													
Reduction in Kansas Corporate Income tax liability due to federal accelerated depreciation deduction **	15		2,793,000	4,468,800	2,681,280	1,608,768	1,608,768	804,384	-	-	-	-	13,965,000
Reduction in Property Taxes due to special exemption for wind equipment *** ##	15												
Subtotal - Existing Kansas tax breaks for owner			2,793,000	4,468,800	2,681,280	1,608,768	1,608,768	804,384	-	-	-	-	13,965,000
Proposed additional tax break: PTC of \$.005/kWh ****	16-18		2,628,000	2,628,000	2,628,000	2,628,000	2,628,000	2,628,000	2,628,000	2,628,000	2,628,000	2,628,000	26,280,000
Subtotal - Existing & proposed KS tax breaks			5,421,000	7,096,800	5,309,280	4,236,768	4,236,768	3,432,384	2,628,000	2,628,000	2,628,000	2,628,000	40,245,000
Potential subsidies - Data not available to estimate: ##													
Cost of backup generation for "wind farm" output	8												
Impact of intermittent, variable output on transmission	8												
Cost of new transmission capacity shifted from "wind farm" owner to electric customers	8-9												
Increased burden of electric system (grid) management	8-9												
Subtotal for subsidies that are estimated			25,553,800	35,209,600	24,910,080	18,730,368	18,730,368	14,095,584	9,460,800	9,460,800	9,460,800	9,460,800	175,073,000
Potential for increased tax receipts:													
Income tax revenue from "wind farm" owner #	15												
Personal inc. tax due to wages, lease payments ##	24												
Sales tax due to "wind farm" purchases ##													
Increase in Property Taxes: NONE. Wind facilities exempt	15		0	0	0	0	0	0	0	0	0	0	0
Subtotal - for tax receipts estimated			-	-	-	-	-	-	-	-	-	-	-
Potential economic benefits for Kansas													
<i>Rough estimates. Actual amount may be known by tax officials</i>													
Wages for Kansans in construction ##	20												
Wages for permanent employees ##	20												
"Wind farm" owners Purchases in KS (minus non-KS cost of same (i.e., "value added" in KS) ##	20												
Rental payments for landowners ##	21												
Payments in lieu of taxes, if any ##	13												
Indirect benefits of above listed economic activity ##	24												
Subtotal - for items with estimates			-	-	-	-	-	-	-	-	-	-	-
Potential economic costs in Kansas													
<i>Costs that cannot be estimated with available data ###</i>													
Higher electricity costs for Kansas Customers****	22		7,429,882	7,429,882	7,429,882	7,429,882	7,429,882	7,429,882	7,429,882	7,429,882	7,429,882	7,429,882	74,298,816
Cost of roads, public safety & other local government services ##													
Impact on Tourism ##	21												
Impact on property values and related property taxes ##	21-22												
Loss of alternative economic development, if any ##	21-22												
Subtotal - for items with estimates			7,429,882	7,429,882	7,429,882	7,429,882	7,429,882	7,429,882	7,429,882	7,429,882	7,429,882	7,429,882	74,298,816

* Assumes that Capital Cost was \$1,000,000 per MW of capacity, marginal tax rate of 35%, and that owner took advantage of only the "normal" 5-year Double declining balance accelerated ****\$600K is "estimate." Also, some landowners may be absentee.
 ** Assumes 7.35% marginal tax rate for Kansas Corporate Income Tax.
 *** Estimating the value to "wind farm" owners of the KS exemption from property tax for "renewable energy resource or technology property, including wind), is very difficult because of the complex process normally applied in the case of utilities (i.e., a process based on income producing value.) **** Assumes same electricity production as used for Federal PTC.
 ***** Assumes 7% line losses from estimated "wind farm" production, that all wind-generated electricity would be sold in Kansas and that the higher cost would be \$0.015 per kWh.
 # Will depend on how owner & parent report & shelter income for tax purposes. ## Data not available to make estimates.



Since 1894

TESTIMONY

To: Senate Assessment and Taxation Committee
Senator Barbara Allen, Chairperson

From: Allie Devine Vice President and General Counsel
Kansas Livestock Association

Date: March 8, 2005

Re: Oppose Senate Bill 280

The Kansas Livestock Association (KLA), formed in 1894, is a trade association representing over 6,000 members on legislative and regulatory issues. KLA members are involved in many aspects of the livestock industry, including seed stock, cow-calf and stocker production, cattle feeding, grazing land management and diversified farming operations.

As many of you know, KLA represents the interests of livestock producers and landowners across the state. We pay particular interest to public policy that affects property interests. This is why we oppose SB 280.

SB 280 provides tax credits for renewable energy facilities outside a particular area of the state outlined in section (2) (b) of the bill (lines 28-33). We oppose direct or indirect governmental taking of economic interests in property or policies that further those takings.

Over the past several years, our members have debated what role the state and our association should play in the development of policy for the advancement of wind energy. As you may already know, we have members who strongly support and those who strongly oppose the development of wind energy.

Last fall, KLA formed a special working group of KLA members to review the recommendations of the Governor's Task Force on Wind Energy and various pending county regulatory proposals. Despite our differences of opinion, KLA members agreed that landowners should not be required to unilaterally carry the burdens of (1) society's desire to maintain the current viewscape and (2) lost economic opportunity through governmental regulation limiting wind development. Our members believe that if government action is taken to remove or restrict opportunities for wind development in specific areas of Kansas the government should provide compensation and/or financial incentives to landowners whose property rights have been taken.

SB 280 furthers the governmental declaration of no development in the "Heart of the Flint Hills" region without providing any compensation or financial benefits to those who have lost economic opportunities. For these reasons, we oppose the bill.

Assessment & Taxation
Date 03-08-05
Attachment # 22